NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

Reengineering the Fleet and Industrial Supply Center's Procurement Process

by

Wayne J. Bergeron

December, 1993

Thesis Advisor: Nancy Roberts

Approved for public release; distribution is unlimited.

REPORT DOCUMENTATION

Form Approved OMB No. 0704-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	December 1993	Master's Thesis

4. TITLE AND SUBTITLE REENGINEERING THE FLEET AND INDUSTRIAL SUPPLY CENTER'S PROCUREMENT PROCESS.

5. FUNDING NUMBERS

6. AUTHOR(S) Wayne J. Bergeron

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
Naval Postgraduate School
Monterey CA 93943-5000

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.

12a. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution is unlimited.

12b. DISTRIBUTION CODE
A

13. ABSTRACT (maximum 200 words)

This thesis reviews the current acquisition processes/procedures utilized by FISC, San Diego, as well as those major procurement reforms directly affecting this organization which have been implemented in the past decade. Additionally, it introduces the revolutionary reform initiative of Systems Reengineering and outlines the principles and techniques required in obtaining significant improvements in an organization.

FISC, San Diego, in particular the Naval Station FISC site, will be utilized as a test platform in determining if applications of Systems Reengineering can be appropriately applied to obtain increased effectiveness/efficiency.

14. SUBJECT TERMS Systems Reengineering, Reengineering, Procurement Reform Initiatives and Fleet and Industrial Supply Center.

15. NUMBER OF PAGES
84

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	UL

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18

Approved for public release; distribution is unlimited.

Reengineering the Fleet and Industrial Supply Center's Procurement Process

by

Wayne J. Bergeron
Lieutenant Commander (Select), United States Navy
B.S., Massachusetts Maritime Academy

Submitted in partial fulfillment
of the requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL
December 1993

Author: _____
Wayne J. Bergeron

Approved by: _____
Nancy Roberts, Principal Advisor

_____
Linda Wargo, Associate Advisor

_____
David Whipple, Chairman
Department of Administrative Sciences

ABSTRACT

This thesis reviews the current acquisition processes/procedures utilized by FISC, San Diego, as well as those major procurement reforms directly affecting this organization which have been implemented in the past decade. Additionally, it introduces the revolutionary reform initiative of Systems Reengineering and outlines the principles and techniques required in obtaining significant improvements in an organization.

FISC, San Diego, in particular the Naval Station FISC site, will be utilized as a test platform in determining if applications of Systems Reengineering can be appropriately applied to obtain increased effectiveness/efficiency.

TABLE OF CONTENTS

List of Tables

List of Figures

I. INTRODUCTION

Public concern over the Federal budget as well as the fiscal deficit and national debt has recently increased.[1] Reforms of the past decade were implemented to ensure the proper expenditure of public funds, however, these reforms have increased the bureaucracy and ultimately procurement costs.[2]

The current movement to reduce the Department of Defense budget while simultaneously "obtaining more with less" is prompting deliberation for the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in the acquisition process. Reengineering embodies these concepts and is an alternative reform initiative which deserves consideration.

This thesis will review the current acquisition process/procedures utilized by Fleet and Industrial Supply Center (FISC), San Diego, as well as the major reforms which have been implemented in the past decade. It will determine if the process of system reengineering can be applied to achieve the appropriate reforms in an era of inevitable financial resource reductions.

A. Objective of Research

The basic objective of this study will be to review the current acquisition process(es) to determine if applications of "Reengineering" are appropriate in redesigning the processes of Fleet and Industrial Supply Center (FISC), San Diego to maximize/increase efficiency.

B. Research Question

The primary research question is: What processes and procedures are involved in the current acquisition system of FISC and to what extent can applications of Systems Reengineering be applied in an effort to maximize effectiveness? Subsidiary questions are:

- What are the current processes and procedures involved in acquisition at FISC?
- What reform has been enacted within the past decade regarding acquisition which have impacted FISC?
- What effect has the reform of the past decade had on the acquisition process of FISC?
- What is "Reengineering" and what are the overall implications?
- If implemented can "Reengineering" improve the effectiveness and efficiency of FISC?

C. Methodology of Thesis

This thesis will utilize historical data to provide the foundation and background of the acquisition process as well as major reforms which have occurred in the past decade which directly affect FISC. In addition to reviewing currently available acquisition and "Reengineering/Total Quality Leadership" literature, sources such as the Defense Logistics

Studies Information Exchange (DLSIE) and the resources of the National Contract Management Association (NCMA) will be incorporated ensuring an accurate and timely product.

Current and proposed Department of Defense (DOD) acquisition instructions, directives, and regulations, as well as FISC internal guidance, will be reviewed but will not be the primary determinant in analyzing the practicality of utilizing reengineering techniques to optimize projected resources.

Personal interviews with key Government officials directly involved in policy implementation at FISC as well as associated customer base will be conducted to ascertain feasibility throughout this research endeavor.

D. Scope

This thesis will analyze the current acquisition process/procedures of FISC, San Diego as well as the reforms which have occurred over the past decade which directly affect their performance. Additionally, it will define "reengineering" and compare it to recent "Total Quality Leadership" initiatives to ascertain the viability of applying this process as an alternative to design a more efficient cost effective method or process for acquisition as it relates to FISC, San Diego.

E. Limitations

FISC, San Diego has five sites which are involved in procurement, however, research will be limited to the Naval Station FISC site. In an effort to depict the current status of the situation, data compiled and analyzed will reflect fiscal year 1992. As the fiscal year was nearing completion at the time of this research the final two months of data were unavailable/incomplete. To reflect an annual rates the information obtained will be projected using a pro-rated methodology. As a result, figures may vary slightly from those currently being reported by FISC, however, they should not negatively impact the overall analysis being conducted during this research project.

F. Organization of the Study

This thesis is divided into six chapters commencing with an introduction. Chapter II provides an overview of the past decade's major reform initiatives, specifically those which have implications for FISC. Chapter III introduces the co ept of reengineering, detailing the principles, techniques and implications for utilization. Chapter IV describes the current organization, process/procedures and related features associated with FISC, and, in particular, the Naval Station FISC site. Chapter V is an analysis of FISC utilizing the principles and techniques of reengineering from the perspective of **Champy** and **Hammer**. Chapter VI summarizes the

results of the study providing conclusions, recommendations and areas of further research.

II. ACQUISITION REFORMS

A. Introduction

This chapter will provide an overview of the past decade's major procurement initiatives, specifically those that have implications for FISC. In addition it will detail the effects that the past decade's reforms have had on small purchasing.

Public awareness resulting from numerous media allegations of improprieties, inefficiencies, waste, fraud and abuse has placed the Federal Government in a reactive mode. Based largely on the findings of various Presidential Commissions and House and Senate hearings, Congress legislated several procurement reforms which indicated Congress' intent to become increasingly active in the procurement process.[3]

Rule making in Federal procurement has received increased attention. Since purchasing power involves the expenditure of public monies extraordinary measures in the form of detailed statutory, regulatory and management issuances have developed to define, prescribe, standardize and control the procurement system. The primary rule makers, however, are members of the Congress, the Office of Federal Procurement Policy (OFPP), the procuring agencies themselves, the Comptroller General, and advocate agencies with particular clientele, such as the Department of Labor and the Small Business Administration (SBA).

Major reform initiatives which directly affect the operation of FISC, include, but are not limited to, the Federal Acquisition Regulation (FAR), Competition in Contracting Act (CICA), Small Business/Small Disadvantaged Business (SB/SDB), Buy American and Prompt Payment Acts.[4]

B. Federal Acquisition Regulation (FAR)

Procurement policy involves several elements. The role of the Office of Federal Procurement Policy (OFPP) is to provide central policy direction for procurement. Since its establishment the office has developed many policy documents. The office was designed to function as the principal entity with authority to develop procurement policy on an executive branch-wide basis. With its congressional charter, the OFPP was given a unique opportunity to make strategic and far reaching improvements in the efficiency, effectiveness, and economy of Government procurement.[5] The most ambitious project undertaken by OFPP was the writing of the FAR. Implemented in April of 1984, the FAR consolidated the Federal Acquisition Regulation system by replacing the Federal Procurement Regulation and major portions of the Defense Acquisition Regulation as well as large portions of regulations previously issued by other Government agencies.

The FAR is designed to prescribe, structure and control the methods and procedures by which business is conducted in Government procurement. Prior to the establishment and

implementation of the FAR the Government's buying process had been a maze of intricacy involving significant complications throughout. A major contention was the inconsistency created by various Federal organizations and agencies applying their own unique policies and procedures as it related to the procurement process. The shear magnitude, social policy requirements and audit/oversight associated with Federal procurement are additional characteristics which have increased the complexity. The FAR has reduced regulatory inconsistency by creating a single procurement regulation with Government-wide applicability.

C. Competition in Contracting Act (CICA)

Competition in Contracting Act, Public Law 98-369 reversed longstanding public policy concerning the administrative procedures associated with the solicitation and award of public contracts by the U. S. Government. A derivative of public concern, Congress was motivated to increase the level of detail of its prescription of rules and procedures for the procurement of goods and services. The Competition in Contracting Act significantly overhauled the procurement process with the basic statutes emphasizing the requirement that Government agencies promote the use of "full and open" competition. The basic premise is that CICA has the potential to identify additional qualified sources and through competition the best value to the Government would be

obtained. Best value is not only a consideration of overall cost but includes such areas as technology and design alternatives, as well as other factors critical in selecting and securing a source for a particular product or service. By widening the envelope of prospective offerors CICA indirectly forced those competing to seriously review their organizations and streamline as well as invest where necessary to ensure optimum efficiency. Only those who realized the implications of CICA and necessity for change would remain truly competitive and obtain Government contracts required for continued company solvency.

D. Small Business/Small Disadvantaged Business (SB/SDB)

Although initiated in 1953, many amendments to the Small Business Act have been enacted which have had a significant affect on the procurement process of FISC over the past decade. The initial intent of the Act was to assist small business concerns in securing a fair share of Government contracts and to recognize the potential for increased sources of supplies and services. Over time amendments were enacted refining the general characteristics into specific guidelines and detailed requirements. In 1958 the Congress passed Public Law 85-536, an amendment to the Small Business Act and added substantially to the original small business legislation.[6] The paramount feature of this new legislation was that it recognized the Small Business Administration as a permanent

agency and recognized independent small business enterprise as a distinct and vital element of the national economy.

SBA has the responsibility of establishing the criteria to determine what constitutes a small business/small disadvantaged business. Additionally, SBA and DOD negotiate annually the goals on the percentage of DOD contracts to be awarded to SB/SDB concerns. The SBA's authority was extended to include the award of contracts to socially and economically disadvantaged businesses.

Under the Small Business Act, as amended, contracting officers are directed to set aside any procurement valued at $25K or less unless it meets any of the following restrictive criteria:

> The small business/small purchase set aside can be dissolved and the purchase made to a large business concern if the contracting officer determines there is no reasonable chance of obtaining quotations from two or more responsible small business concerns (or at least one if the purchase does not exceed $2,500) that will be competitive in terms of market price, quality, and delivery.[7]

Although there is slightly more flexibility for the contracting officer in procurements of value greater than $25K any procurement which is not to be set aside must be forwarded to the SBA with the appropriate rationale and justification for independent evaluation.

As the Small Business Act has evolved it has significantly improved the position of small businesses with regards to potential contract awards which assuredly meets the intent of the Congressional legislation.

E. Buy American Act

Another socio-economic initiative is the Buy American Act. The primary objectives of this Act were to sustain or create jobs, promote of domestic economic development, protect the domestic industrial base, promote a level playing field for international trade and support the material and service needs of Government operations. Although modified numerous times subsequent to its enactment in 1933, it continues to influence Government purchasing decisions. A key provision of the statute is as follows:

> Only such unmanufactured articles, materials and supplies as have been mined or produced in the United States, and only such manufactured articles, materials and supplies as have been manufactured in the United States substantially all from articles, materials, or supplies mined, produced or manufacture, as the case may be, in the United States, shall be acquired for public use.[8]

Initially the Act was vague and subject to interpretation which lead to inconsistencies in application. Interpretation of the imprecise language of the Buy American Act was improved with Executive Order 10582 which detailed criteria to be

employed for establishing percentage factors while simultaneously maintaining flexibility of agency heads to reject or even increase the percentages for preserving the Governments best interests.

Rigid as it may seem, the Act allows some flexibility for items procured for use outside the Continental United States. Additionally, if requirements exceed the capacity of what can be produced in the United States, alternative non-U.S. sources can be utilized. Administrative discretion is used in determining whether the procurement of a domestic item would be consistent with the public interest and whether the cost of such a procurement would be unreasonable.

F. Prompt Payment Act

General Accounting Office (GAO) report of March '82 substantiates the fact that the Government often times is delinquent in promptly paying its bills. Although the vast percentage of delinquency was caused by numerous factors not attributed to the Government, the report confirmed that at least thirty percent was the sole responsibility of inefficiencies within the process.[9] Although both large and small business concerns were affected by the negligent practices the burden was more severe with potential for austere outcomes on small business. In addition to the perceptions that Government was taking advantage of the situation and obtaining "interest free" loans, companies were

facing cashflow problems. The situation is better summarized by Senator Sasser,

> Economic conditions are already driving large numbers of entrepreneurs in bankruptcy-particularly, small entrepreneurs. An overdue account exacerbates conditions for small businesses, which just do not have the capital, nor administrative personnel required to develop cash and credit management practices that would help them to weather the cost of carrying overdue accounts or high financing costs.[10]

This situation supplemented the already adversarial relationship among Government and the private sector contractors. Fueled by increased animosity frustrations over dissatisfaction concerning unwarranted delays associated with liquidation of bills forced the Government to react.

In May of 1982 The Prompt Payment Act, Public Law 97-177, was enacted. In summary the act requires that the Government pay its bills in a timely manner and establishes increased liability in the form of interest on principal if not paid within 30 days of receipt of proper documentation attesting the receipt and acceptance of goods and/or services.

The Act is a dual motivating mechanism in ensuring bills are paid. First, penalties accrue if the requirements under the provision are not met. Secondly, Government personnel are encouraged to promptly pay the bills in order to take advantage of any discounts as delineated in the terms of the

contract. Assuredly this legislation results in a win-win situation for the Government and contractors as well.

G. Effect of Reform

Public awareness and concern of perceived deficiencies in the process generates quick fixes through legislation, often with significant increases in procedural steps that inevitably cost more than the correction saves. Regulatory complexity is created in an effort to respond to profiteering and excessive prices that are periodically discovered.

The important question regarding the effectiveness of management under the FAR might begin with consideration of the management process set up for the administration of the regulation itself. The regulation is not issued by a single authority, but by agreement between the Secretary of Defense (SECDEF), the Administrator of NASA, and the Administrator to the General Services Administration. Each of these agencies has been vested, by Congress, with authority to issue procurement policy and regulations by the respective statutes under which they have operated for many years. Although the FAR is a single, Government-wide regulation, it is a product of negotiation between these respective agencies each maintaining its interests regardless of whether the policy it implements makes economic sense and is considered prudent in relation to reasonable business practices.

In addition there is a legitimate question whether the U.S. Government needs such an extensive regulatory structure for procurement. The fundamental aspects of procurement do not differ irrespective of the organizations involve. The process of solicitation, proposal, agreement, award and administration are identical.

The trend toward increased regulation was accelerated by the Competition in Contracting Act of 1984. This change to secure competition is likely to have the greatest long-term effects on agency contracting operations. The enactment has had significant cost implications for private economy that deals with the government on a contract basis. CICA and subsequent procurement related policy has resulted in allegations that Congress has increased its own authority, and, in addition to legislative actions, has entered the daily routine of decision making and processing of contract actions, previously the sole domain of the executive branch.

In direct contrast to the theory of "Full and Open" competition under CICA are the strict requirements embodied in the Buy American Act. Although benefits are indirectly realized by U.S. producers in the form of tariffs imposed on foreign producers, the initiative, from an economic standpoint, fosters the acceptance of mediocrity and inefficiency of U.S. producers. By allowing full foreign competition, the best value would be obtained either directly from foreign competition or by forcing U.S. producers to

eliminate inefficiencies and become more competitive, not only in the domestic market, but worldwide. Those unable to compete would be forced to undertake projects in which they maintain the comparative advantage. The affect would be improved quality, reduced cost, and, more importantly, increased trade.

> Regardless of the various restrictive policies and practices, the United States and most other nations subscribe to the broad belief that barriers to international trade should be reduced and that free and fair trade should become the norm.[11]

> There is no question that Congress has the authority and responsibility to demand accountability for the Department of Defense. Nor would many critics argue that Congress should eschew the opportunity to evaluate the efficiency and effectiveness of the DoD. Rather, the issue is how much micro-management is enough, both in terms of the opportunity costs and the degree to which DoD management efficiency are improved as a result of this close scrutiny and increased legislation.[12]

The direct effect of ensuring compliance with statutory requirements at FISC, San Diego has significantly increased PALT through additional reporting requirements, implementation and administration of statutes. With regulations continuously changing at a rapid rate, it is increasing difficult for Government procurement professionals to learn and understand the intent of the laws let alone properly implement them. Austere budget reductions, particularly training, only add to

the negative ramifications associated with the current procurement process. Whether the procurement process, through legislative guidance, is more efficient or more effective is dependant on the views and opinions of the analyst as well as the perspective of whether the policy is reviewed independently or collectively.

Current Government procurement policy seems to have totally rejected any thought that less regulation of procurement might be profitable or possible.

H. Chapter Summary

Reform initiatives undoubtedly will continue and it would be absurd to think that the reforms are created for solely reforms sake. If viewed independently, the intent of each reform initiative is an attempt to resolve current issues which in the past have negatively impacted certain concerns and for the most part were geared for and successfully achieved their narrow objectives. However, in a broader perspective, the net result of the collective reforms have caused vast inefficiencies to become inherent at not only FISC, San Diego but also throughout the Government by redundant requirements administered through an increased number of agencies who in turn have increased the burden of reporting requirements, audits, checks and counter-checks and whose bureaucracy is overwhelming. An aspect which too often is overlooked is not the cost of items being procured, but the

cost of administering the vast programs and initiatives which were developed to improve the quality and effectiveness of Government procurements. From a business perspective these reforms, which do have positive socio-economic intent with regards to federal spending, have failed significantly in that the cost of implementing and administering them exceeds the benefits obtained by the nation overall. The processes and procedures are in desperate need of an overhaul to reduce redundancy and reduce costs through a streamlined approach.

III. SYSTEM REENGINEERING

A. Introduction

Another reform initiative designed to reduce inefficiencies, in addition to those cited in the previous chapter, is *systems reengineering*.

> System reengineering means putting aside much of the received wisdom of two hundred years of industrial management. It means forgetting how work was done in the age of the mass market and deciding how it can best be done now.[13]

A set of business practices and principles, established by Adam Smith centuries ago, successfully shaped the structure, management and performance of American businesses by breaking down complex work functions into its most simplistic ***tasks***.[14] These revolutionary initiatives that set the standard for product development, production, and distribution as well as served as models for businesses around the world. Unfortunately, these same initiatives have caused organizations to stagnate and ultimately decline due to acceptance of the "status quo" rather than exploiting new and radical business practices and procedures which could revive an organization and be applied to improve productivity and ensure continued solvency.[15] These antiquated principles were forged by necessity. Efficiency was achieved by breaking

down the most complex assignments into a series of minute tasks. The resultant of centuries of this style of business practice is a multi-layered organization comprised of divisions with no consistent objective with regards to the organization as a whole. The overlapping and redundant features within divisional organizations are creating significant cost inefficiencies. In the Department of Defense as with the current business environment nothing is constant or predictable. Past attributes such a vast experienced work-force and established operating and administrative systems which once characterized organizations as successful are now becoming increased liabilities.

Organizations must divest themselves of the business principles of the past and re-organize given the demands of today's markets and the power of technology. Our nation is entering another era plagued with numerous challenges with limited resources.

B. Reengineering Defined

The formal definition of reengineering is:

> the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality, service, and speed.[16]

In laymen terms it means starting over. Reengineering does not include tinkering with what already exists or making

incremental changes that leave basic structures intact. It isn't about making patchwork fixes, jury-rigging existing systems so that they work better. The *process* is the key to reengineering. Organizations which consider utilizing these radical tools must abandon long-established procedures and fundamental assumptions that are currently undermining the business operation. The critical facts associated with system reengineering is not to retain the procedures which resulted in past success but more importantly to identify those factors which "add value" to the customer, given the demands of the market and power of technology.

The bureaucracy which has resulted from the theories of Adam Smith is a multi-layered organization whose evaluations of success are inherently buried at the divisional level with no regard to the external divisional functions. Classical business structures that specialize work and fragment processes are self-perpetuating because they stifle innovation and creativity within an organization. The fragmented processes and specialized structures of companies bred for an earlier day also are unresponsive to large changes in the external environments. It is these shortcomings that create the vast inefficiencies which disregard the organization and its objectives as a whole and ultimately disregard the needs of the customer.

Reengineering rejects the conventional wisdom and perceived assumptions inherent in the centuries old industrial

paradigm. Reengineering is about inventing new approaches to process structure and redesigning efficient models of organizing work with the customer's needs as the primary objective.

C. System Reengineering Principles

There exists comparative similarities as well as distinct differences between quality management initiatives, such as Total Quality Management (TQM), and systems reengineering. Both recognize the importance of processes, and they both start with the needs of the process customer. However, the two programs differ fundamentally. Quality programs work within the framework and restrictions of a company's existing processes and seek to enhance them by means of continuous incremental improvement. In contrast, Reengineering seeks not to enhance existing processes but more importantly to develop new models which add value to the customer throughout the process, and, as such, result in a more productive, cost effective system which mutually benefits the producer as well as the consumer of the end product.

The vision statement is a simplistic description of what a company believes it wants to achieve. It provides an instrument from which the progress of the reengineering team can be evaluated and progress measured. Vision statements need not be verbose, but they must be powerful ensuring that they are not devoid of any real meaning. A vision statement

should at minimum contain three elements. First, it should focus on operations; second, it should include measurable objectives; and third, it should change the basis for competition in the industry.

> Before a reengineering team can proceed to redesign, it needs to know some things about the existing process in particular the critical issues that govern its performance as it relates to the customers needs and requirements.[17]

As mentioned earlier, the goal is not to obtain incremental improvements on an existing process and as such the team should obtain the "big picture" with regards to the process involved so that they have the required intuition and insight necessary to create a totally new and superior design. The best place to commence reengineering is to understand the inputs and outputs and how these factors relate to the end product and the customer's real requirements.[18] The reengineering team should gain an understanding of their customers as well as the organization in which they're involved. Three techniques commonly used in reengineering are: 1) boldly apply one or more principles of reengineering; 2) identify and eliminate preconceived assumptions; and 3) seek opportunities for the creative application of technology. In addition to the forementioned techniques, reengineering yields the following factors:

1) Expertise with regards to the process being reviewed is not required. Basic understanding of the critical issues and the inter-relationships is the foundation in which reengineering evolves.

2) Persons with no direct relationship to the process (outsider) can be equally beneficial. These persons add an unbiased opinion to the procedure whereas persons who are involved directly with the current system may inadvertently, through professional pride and ownership of the current system, be swayed and lose sight of the overall and primary objective of reengineering.

3) Preconceived notions must be disregarded. Factors which lead to past successes may be obsolete given the current environment and continued reliance may in fact be impeding the process and considered a liability resulting in persistent inefficiencies.

4) It is imperative to view all aspects from the customer's perspective. Upon determining the critical issues thorough evaluation is required to ascertain whether the elements of the process create any value to the customer.

5) Redesign is most successful if performed in teams. Relying on numerous experiences and opinions allows the group to compile varied approaches and alternatives to the process. If membership is restricted to a small number potential alternatives may be overlooked, while, if the group is too large an inordinate amount of time may be expended on

incidental issues. The groups architecture should be appropriately tailored based on the complexity as well as the circumstances it is involved in.

D. Implications of Reengineering

The centuries old industrial model is comprised of the basic principle that workers have few skills. This premise inevitably requires that the jobs and tasks assigned be refined to their most simplistic aspect. During the industrial revolution the argument was made that efficiency was gained when the workforce performed one easily understood task. In order to link these simplistic tasks complex processes needed to be developed to meet the contemporary demands of quality and during the infancy of the industrial age companies accepted the inconvenience, inefficiencies, and costs associated with these complex processes.

In order to meet the contemporary demands of quality, service, flexibility, and low cost reengineering dictates that processes remain simplistic. The requirement for simplicity, which is contrary to the theories of Adam Smith, has enormous consequences for how processes are designed and organizations are shaped. The implications and benefits of reengineering are as follows:

- Several jobs are combined into one. The most basic and common feature of reengineering is the absence of assembly line mentality. Many formally distinct jobs or tasks are

integrated and compressed eliminating the need for specialists. The advantages resulting are: the elimination of specialists, who previously were located and responsible to different organizational divisions; and omitting the requirement to develop complex procedures which were previously required to adequately link inter-divisional tasks ensuring quality in the end product. Additionally, the team is able to collectively determine and achieve the objectives as opposed to the industrial resultant of evaluating each task, as it relates to success, independent of external inter-related tasks or divisions. By combining tasks the teaming approach also reduces the number of times a product is transferred to various divisions thus significantly reducing the chance for increased human error.

- Reliance on workers to make decisions. Corporations which undertake reengineering not only compress processes horizontally but also rely on workers within the "trenches" to develop alternative measures to become more efficient. Although this transfers control from executives and supervisors of the hierarchial model, more creative, innovative ideas result from those who are aware of the process and have "hands on" practical experience with the factors associated with the process. The antiquated reliance on isolated executives to make appropriate decisions often was time consuming and inefficient, which resulted in those ideas, often not being implemented.

- Non-reliance on standardization results in creative, innovative measures. Traditional processes were intended to provide mass production for a mass market. Inputs were reduced to its most simplistic aspect and standardized so as to achieve uniformity. However, this logic is obsolete as it relates to the diversity associated with today's environment.[19] Reengineering allows individuals to tailor the process to meet the unique requirements derived from the situations and circumstances at hand. Traditional one-size-fits-all processes increase complexity in that they must incorporate special procedures and exceptions to handle a wide range of situations. In contrast reengineering maintains a simplistic process because each version is only required to handle the case for which it is appropriate.

- Work is performed where it makes most sense. Reengineering allows the shifting of work across organizational boundaries which is contrary to the traditional methods or business practices. The resultant is a significant cost reduction by reducing and in some cases eliminating "specialists" as well as the reduced time and errors associated with interdepartmental transfers. Work is shifted across organizational boundaries to improve overall process performance.

- Requirements for audits and controls are reduced. Another non-value adding work that gets minimized in reengineered processes is auditing and control. Conventional

processes are inundated with numerous "checks and balances" which add no value but are included to ensure quality is maintained throughout the process. While the objective is plausible the costs associated with strict control are quite large. A well designed process utilizing reengineering techniques reduces the number of jobs, reduces the number of inter-departmental transactions, allows "team" members to continually evaluate the process and ultimately reduce the need for audits and checks. More simplistically, if a process is well thought out and designed properly the work will be completed right the first time eliminating the need for rework. By involving all team members in the process professional pride and ownership will be the key factors motivating the individuals toward program success.

With the implementation of system reengineering, organizations, by the nature of the process alone, are streamlined and reducing the horizontal layers found in traditional organization, and, as such, reducing the bureaucracy by establishing cost effective processes which meet or surpass customers' requirements while simultaneously positioning the corporation in a more competitive stature.

Reengineering is similar to other business initiatives which are not structured requiring comprehensive strict compliance to various principles but more often relies on the flexibility of tailoring the principles to the needs of an organization. As such reengineering can be broken down into

various levels of implementation taking into account internal as well as external environmental factors. These levels of reengineering include: conservative, moderate and radical.

It should be understood that although flexible in nature reengineering yields maximum results when analyzing systems utilizing the "radical" approach. As stated in previous chapters ideally reengineering does not consider pre-conceived notions, regulations and fundamental assumptions. It establishes clear, concise objectives which mirror the needs of the organization's customer. Further processes/procedures are analyzed and developed to ensure that each step within a process adds value to the customer. Lastly, after determining the objectives of an organization and tailoring the process/procedures to meet the objectives in the most efficient manner the structure of the organization is developed eliminating both vertical as well as horizontal layering which do not conform to the reengineered organization.

Applying reengineering in other than the radical mode results in incremental improvements similar to those found in TQL reform initiatives. The internal as well as external environment will influence the determination of which level of reengineering to implement.

The key to success lies in knowledge and ability. Undoubtedly organizations that attempt reengineering will

encounter obstacles along the way. Listed below are a few of the most common errors.

- Attempts to fix rather than change the process;
- Focus is not on business process;
- Neglect of values and beliefs;
- Acceptance of minor as opposed to significant achievements;
- Placing constraints on reengineering effort;
- Allowing corporate cultures and management attitudes to impede reengineering progress;
- Lack of acceptance throughout the organization (top and bottom);
- Assignment of personnel who do not understand the process of reengineering or the processes of the organization to the reengineering project;
- Attempt to appease everyone within the organization; and
- Failure to distinguish reengineering from other business improvement programs.[20]

Failure to recognize the problems cited above will undermine any efforts in reengineering and increase cynicism and frustration for all concerned. Although statistics show that 50% to 70% of firms who undertake reengineering fail, avoidance of the common errors will result in success.

E. Chapter Summary

This chapter introduced a new reform initiative with a radical approach at addressing the common inefficiencies currently found in many organizations. Although similarities exist between reengineering and other quality initiatives the significant difference is that this reform seeks to obtain monumental as apposed to incremental improvements. Outlined in this chapter are the principles and techniques of reengineering as well as the positive implications associated with this revolutionary reform initiative.

As stated by Champy and Hammer this new initiative is not a cure all, however does offer promise where other reforms have fallen short of their intended objectives.

IV. CURRENT ACQUISITION PROCESS/PROCEDURES UTILIZED BY FISC

A. Introduction

FISC, San Diego has developed its organization over time; its management philosophy mirrors business practices adopted earlier this century and reflects an hierarchial model with various layers and sub-divisions which breakout tasks and functions with the intent of maintaining productivity and efficiency through "**specialization**".

The processes and procedures associated with procurement have been adopted and modified in an effort to conform to the legislative regulations as well as Service policy and guidelines. The organization and processes utilized are inter-related somewhat in that as the process is modified to align with new regulations the organization itself is affected. The existing organization and process associated with the procurement of goods and services at FISC, San Diego, is the resultant of decades of change and procurement reform.[21]

B. FISC, San Diego Organization

In any group activity the organizational structure is a factor which largely determines the level of performance obtained by the group as a whole.[22]

> In the case of purchasing, the function's location in the management hierarchy of a firm is important, for this decision either facilitates or limits the influence purchasing policies and actions can have on the firm's total performance. Within the department itself, the form of organization selected influences the types and levels of expertise developed and also, to a great extent, the effectiveness with which the talents of individuals are utilized.[23]

The organizational structure reflects management's basic attitudes toward the major activities involved in its operation. FISC's organization chart reveals a common hierarchial structure, depicting the first three levels with distinct functional purposes (Refer to Figure 1). In reviewing the procurement process the key players are Procurement Management Department (Code P) and the FISC Sites. A unique characteristic in this organization is that Code P, whose primary function is to review, implement, monitor and continuously improve procurement policies and procedures, uses a centralized approach.[24] Whereas the FISC sites who perform the operational aspects of procurement utilize a decentralized approach. It is this structure which fosters high level support in the proper implementation of policy and procedures. With guidance as the impedes, the appropriate tools are utilized by the operational level to perform successfully given the current regulatory requirements imposed through legislative acts.

The centralization of Code P allows for virtual control as well as consistency in the implementation of policy and

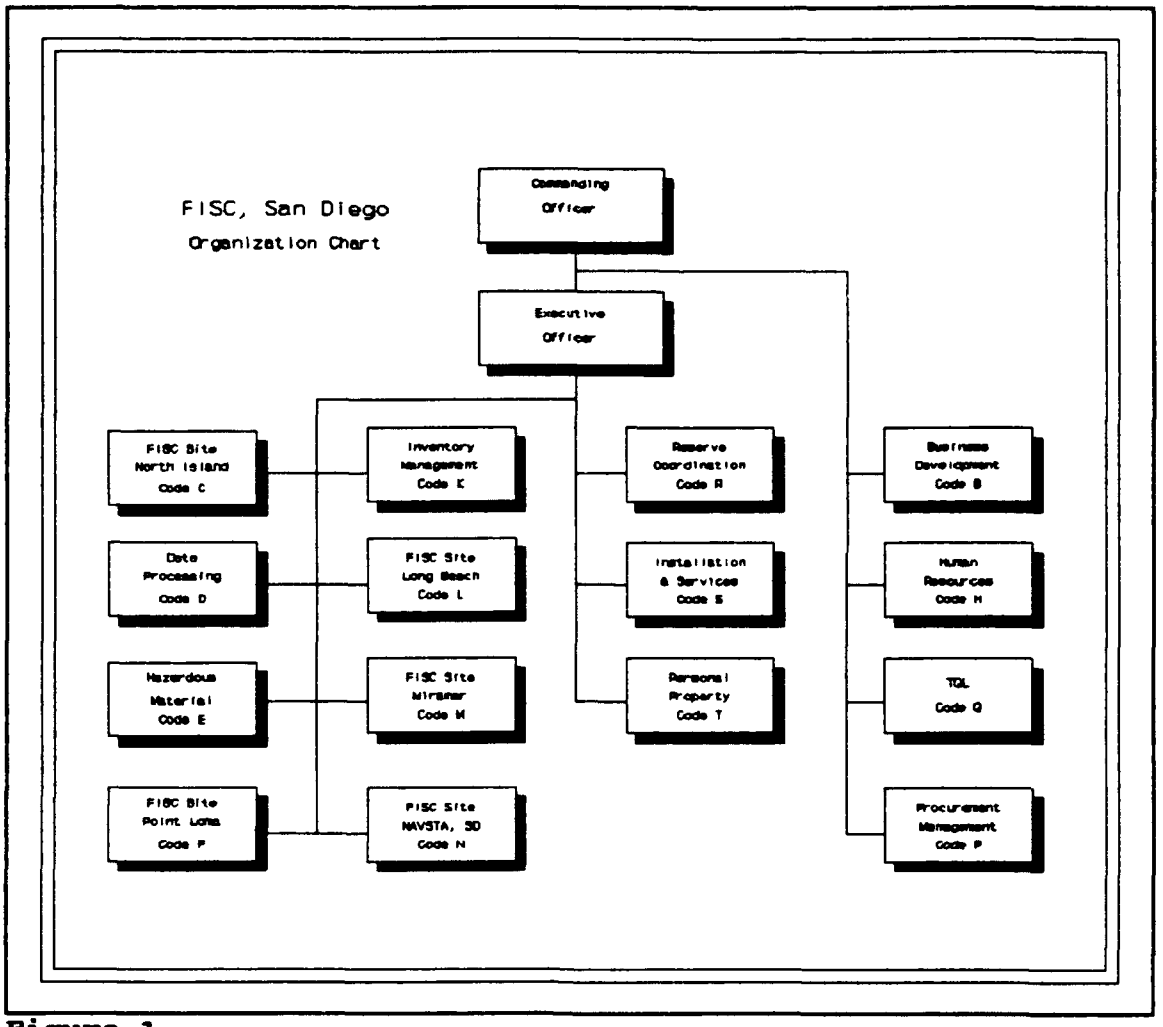


Figure 1

guidance. In addition these efforts are consolidated in one office, which results in a coordinated effort in controlling this aspect of the individual FISC sites.[25]

The decentralized approach utilized at the FISC sites delegates responsibility as well as authority and instills a sense of autonomy and flexibility for the operational performance of the site. From an operational perspective, a significant advantage of decentralization is that it

facilitates the coordination of purchasing activities with those of the customer. Additionally, the existence of various sites within major commands, as is the case of FISC, San Diego, purchasing personnel are able to respond quickly to the customers needs. In contrast, the utilization of a centralized approach by FISC sites in the transfer of information, via conventional paperwork system, would impede the process typically lengthening the purchasing procedure by two to three days.[26]

The primary responsibility of the Procurement Management Department, Code P is to provide functional procurement support to the FISC sites, and to provide information, assistance and guidance ensuring continuity throughout the organization on procurement related issues.[27]

FISC site procurement directors have full autonomy to structure his/her organization to best meet the needs of the customer while simultaneously adhering to the guidelines promulgated by Code P. FISC, San Diego has five FISC sites and each organization is uniquely structured, although similarities were noted, with emphasis on the various functions of procurement. Figure (3), depicts the organization of Naval Station, San Diego FISC site which will be the subject of further analysis in this thesis.

As depicted in figure (3) Naval Station FISC site is broken down into various divisions namely NPE, NPF, NPB, NPS and NPM. With the exception of NPB, NPE and NPM, which

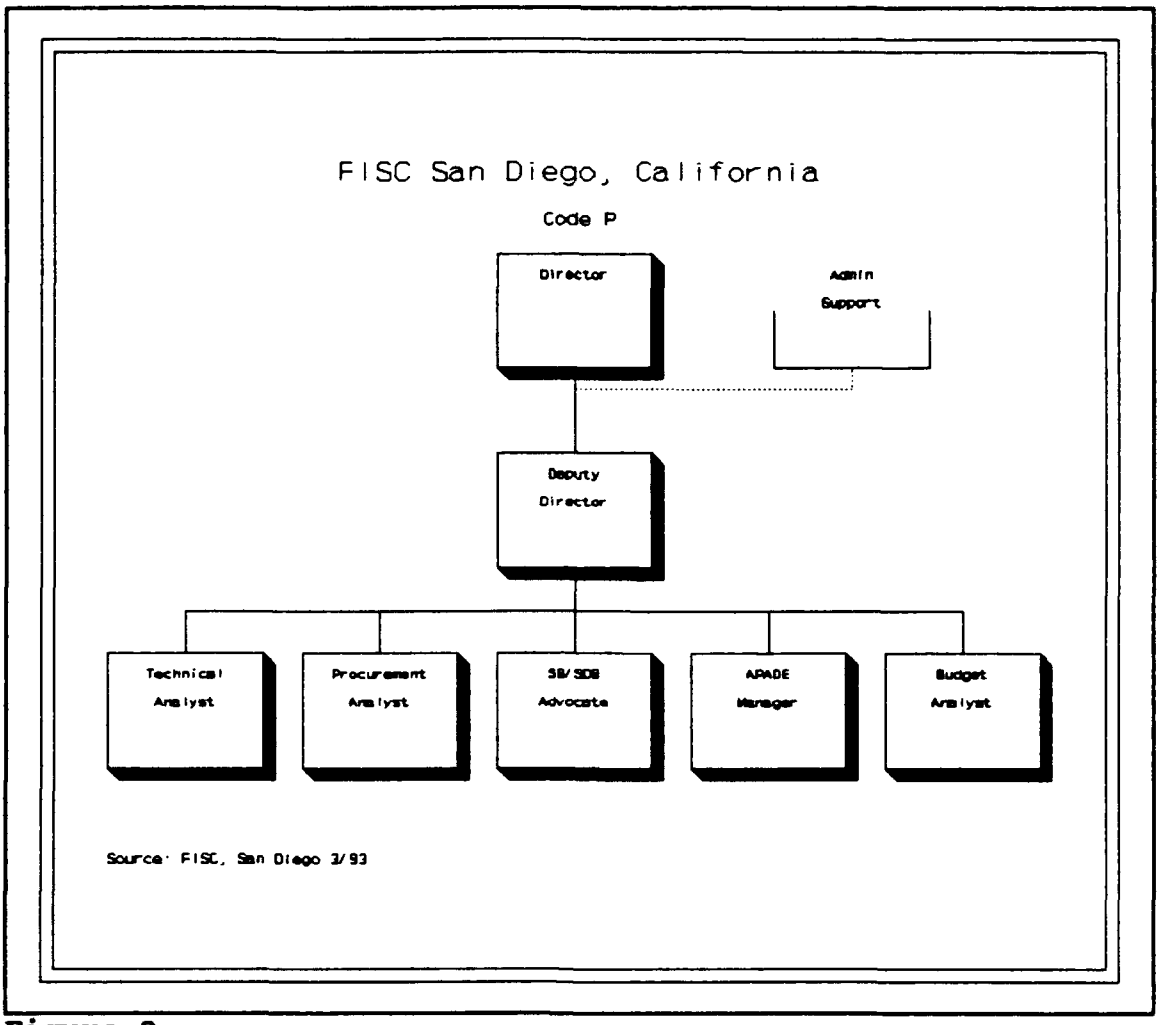


Figure 2

provide functional purchasing support to the entire Naval Station, the remaining divisions are established to perform purchasing functions for specific customers.

NPB is comprised of one systems analyst who is responsible for developing and maintaining management information systems (MIS) which incorporate all aspects of the FISC site. NPE is the expediting division whose primary function is to purchase any and all goods and services which have been determined to be urgent in nature. NPM division

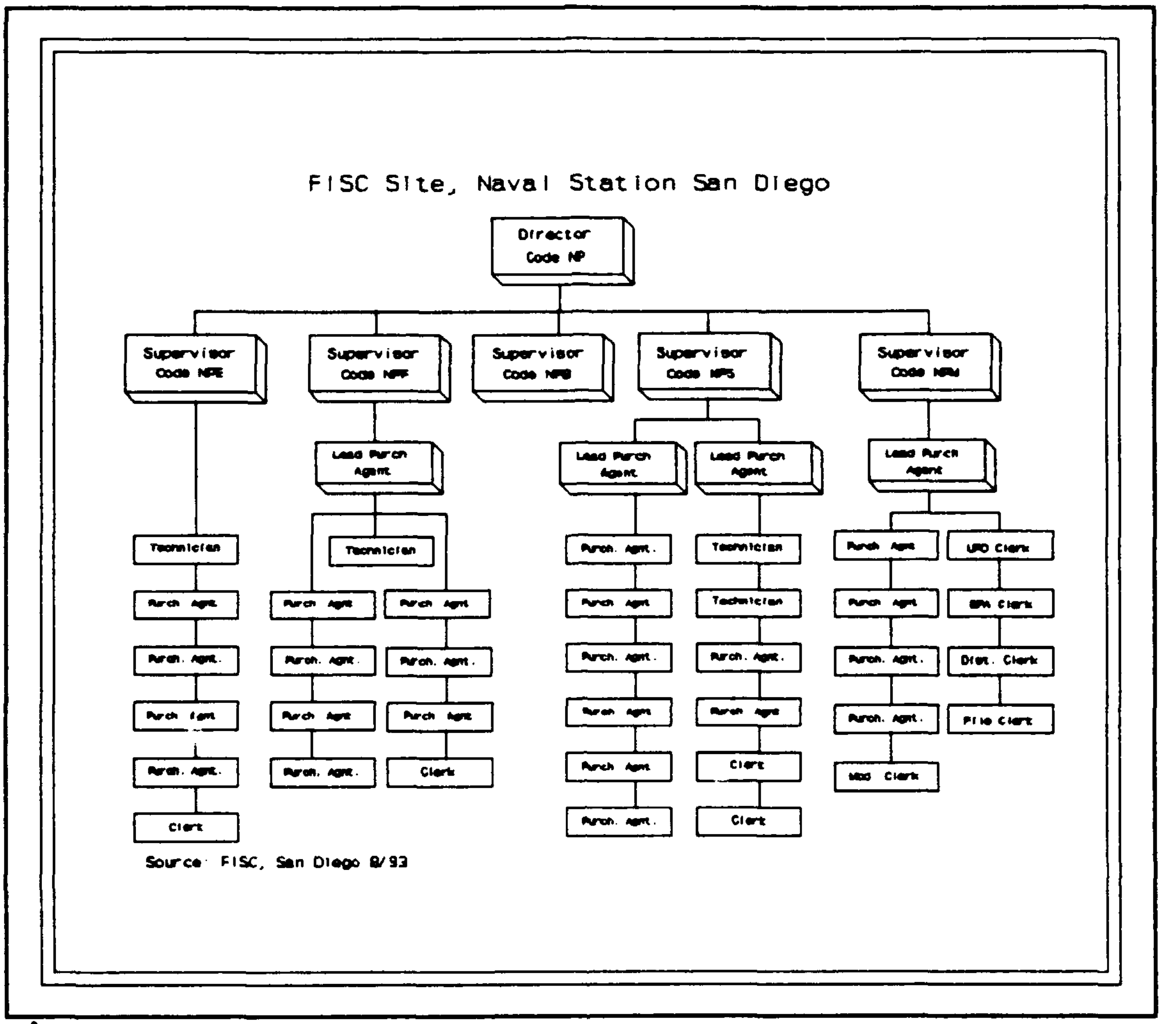


Figure 3

performs all modifications to existing contracts and in addition employs clerks with specialized skills to maintain and administer unpriced orders (UPO) and blanket purchases (BPA). In contrast to the divisions previously noted which have functional purchasing responsibilities the remaining two divisions, NPF and NPS, perform with the needs of specific customers in mind.

NPF has sole purchasing authority for fleet units, commonly referred to as "pierside" purchasing. NPS handles

all requirements established by the shore facilities of Naval Station, San Diego.

Although eluded to previously, table (1) is provided to better understand the inter-relationship of FISC site and Code P procurement responsibilities. This general overview outlines procurement responsibilities and is broken down by functional area. Code P maintains a "macro" approach in providing advisory support while the FISC sites maintain a "micro" approach in performing operational tasking.

Table 1 **FUNCTIONAL RESPONSIBILITIES**

FUNCTION	SITE RESPONSIBILITIES	CODE P
Policy Procedures	Assure Compliance w/ Existing Regulations.	Set, Monitor & Continuously Improve Procurement Policies and Procedures.
Personnel	Operational Supervision, Personnel Actions, Work Scheduled Assignments.	Functional Advisory Support, Indoctrination, Integrity Statements, Warrants, Allocate Resources.
Workflow	Award Contracts, Contract Administration, Set Priorities.	Analysis of and Recommendations for Process Improvements, Assistance and Guidance.
Production	Primary Individual Site Responsibility.	Generate Reports for Individual Sites.
Technical	Document Screening, Technical Research.	Specific Waivers, Contractor Compliance.
Training	Coordination, Scheduling of FISC General and Basic Skills Training.	Specialized In-Depth Procurement Training.
Budget	Maintenance and Submission of FISC Budget Requirements.	Formulation and Submission of Budget to Financial Management, Monitoring of Quarterly Budget Status/Fee-For-Service, Set/Monitor Rates, Provide Info to Sites.
Small Business	Support Goals.	SADBUS and Business Opportunity Centers.

Source: FISC, San Diego Procurement Memorandum P-001 (Enclosure 2) dtd 3/18/93

C. FISC, San Diego Purchasing Process

Figure (4) displays the macro purchasing process utilized by the FISC site located at Naval Station, San Diego. The process depicted is simplistic in nature, however, does not accurately reveal the intricacy involved. Figure (5) details the actual process utilized to ensure compliance with the myriad of statutes, regulations and policies imposed. The process is comprised of systematic steps commencing with the origination of a requirement and concluding with the award of a contract. This lengthy process results in an average Procurement Administrative Lead Time (PALT) in excess of twenty days per unit procured on behalf of shore activities.[28] Table (2) represents the current PALT rates as they relate to the appropriate customer base.

Table (2) NAVSTA AVERAGE PALT RATES

Customer:	YTD Units Compl:	Average PALT:
NAVSTA/Tenant Commands	9747	21 Days
Renewal/Shore	40	12 Days
Habitability	8415	1 Day
Pierside/Fleet	21446	6 Days
Totals:	39648	11 Days

Source: FISC, San Diego Purchase Workload Report (July '93)

Units, as compiled by FISC, are individual line items and do not represent the actual number of contracts awarded. For example, a contract for one type of spare part, regardless of

quantity purchased, equates to one unit. A single contract for 10 different spare parts equates to ten units.

It is important to note that a requisition does not accrue PALT until it is entered into the Automated Procurement and Accounting Data Entry (APADE) system. Additionally, PALT ceases to accrue upon contract award. FISC does not account for the time expended when the requisition is received through the actual input into APADE or the time the contract is let through the actual receipt of the goods or services by the customer. These facts may seem mundane but result in ultra-conservative figures with regards to PALT.

Macro Purchasing Process Diagram

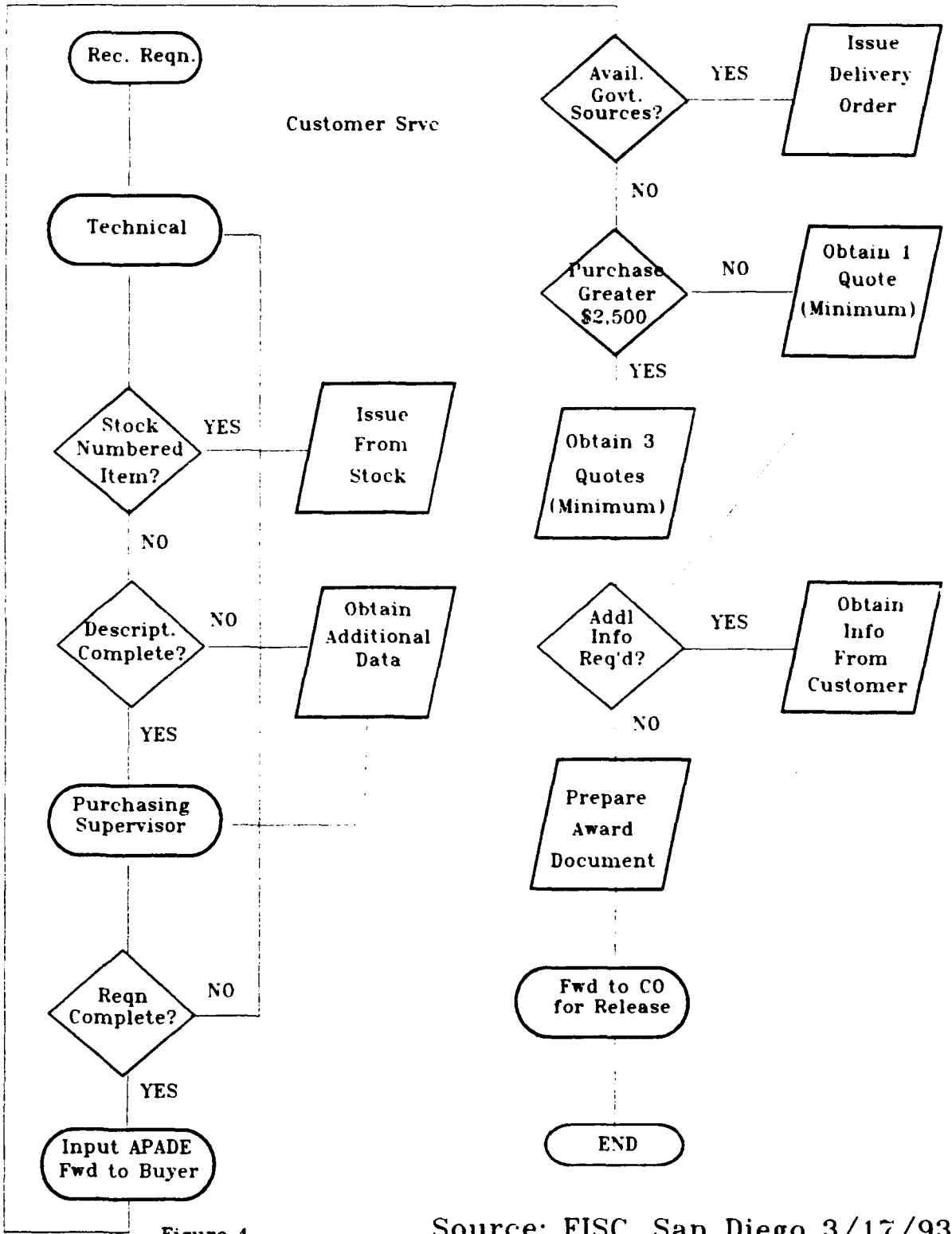


Figure 4

Source: FISC, San Diego 3/17/93

Buyer's Process Naval Station, San Diego

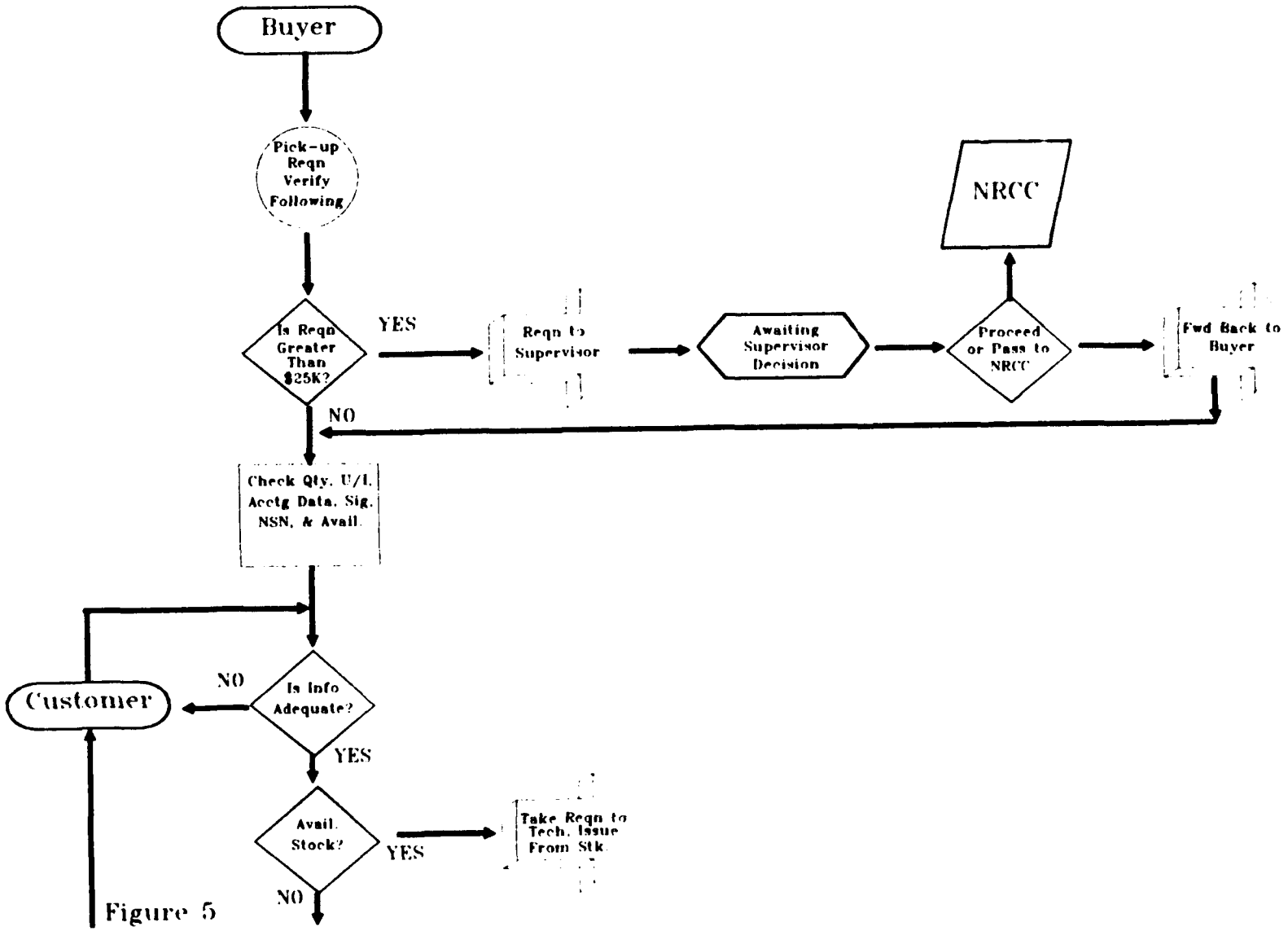
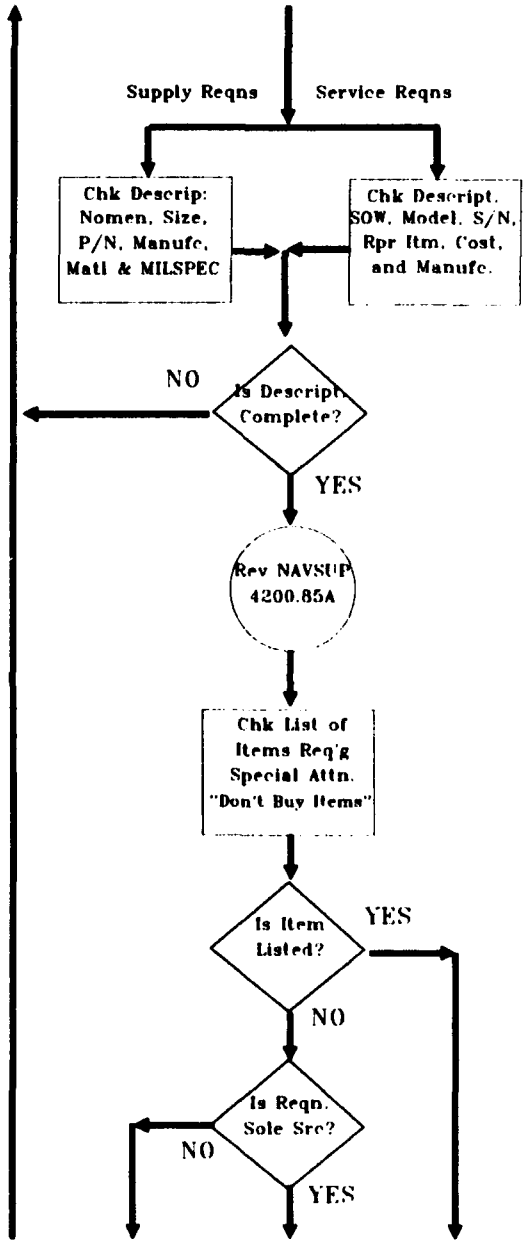
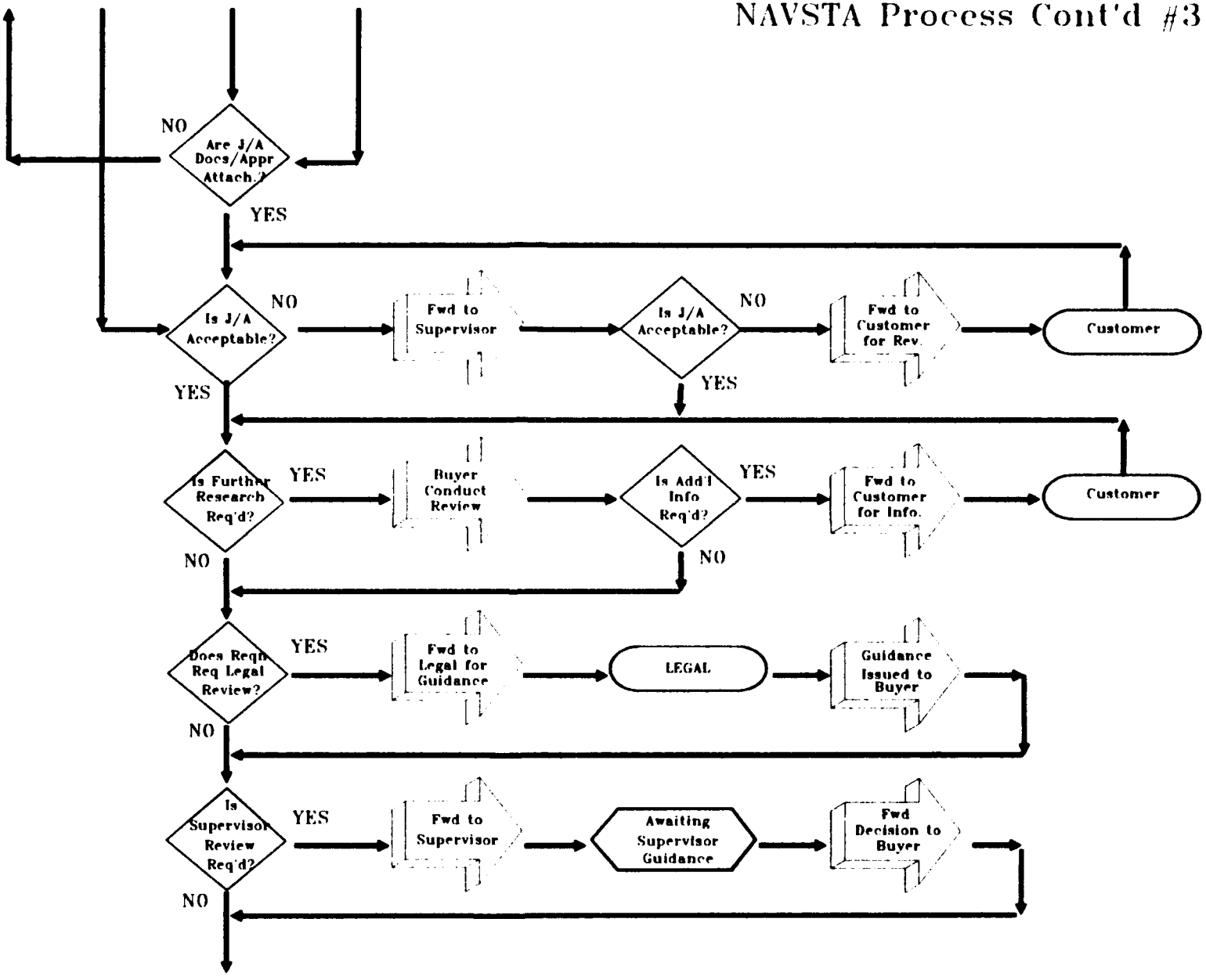


Figure 5

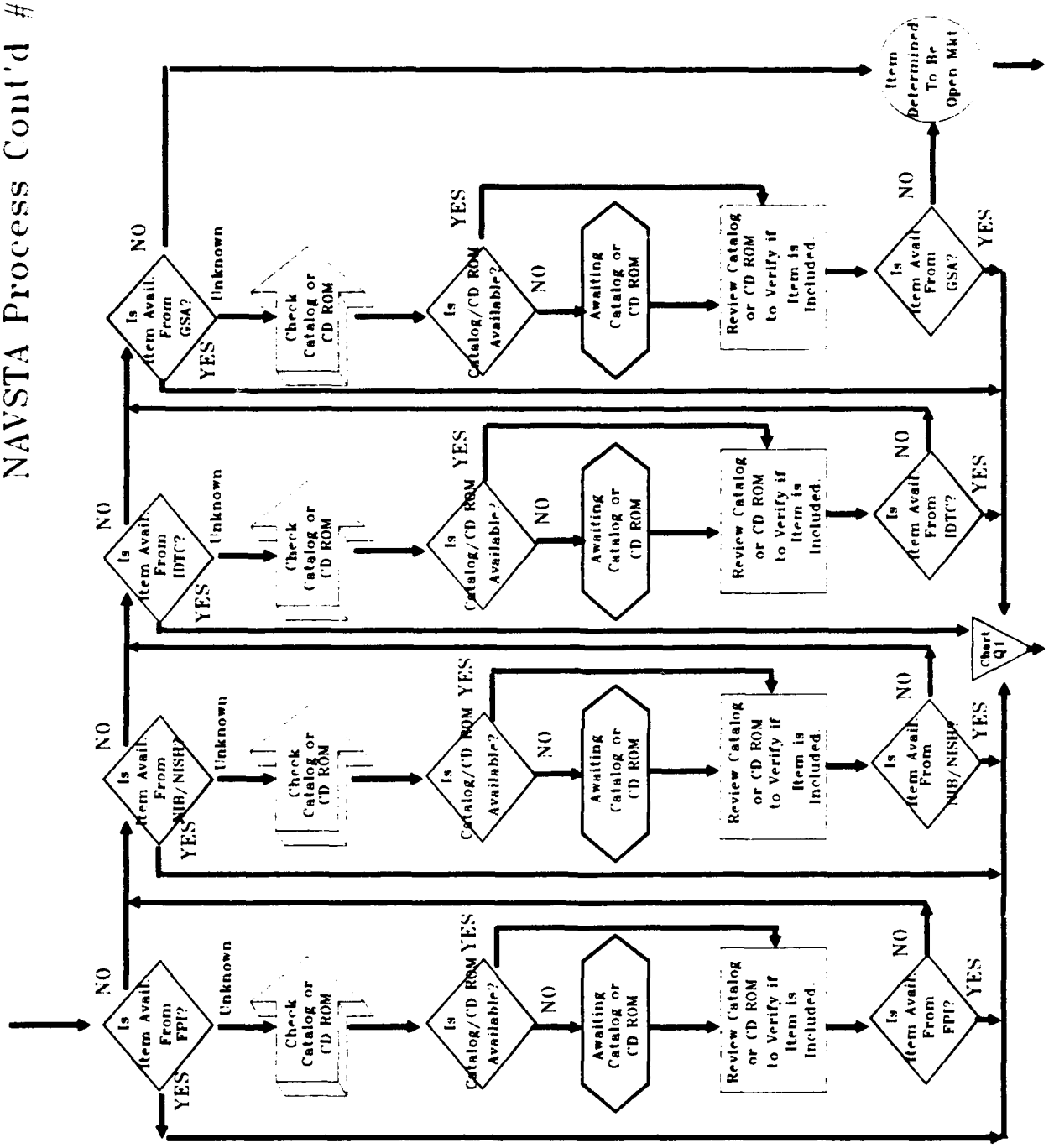
NAVSTA Process Cont'd #2



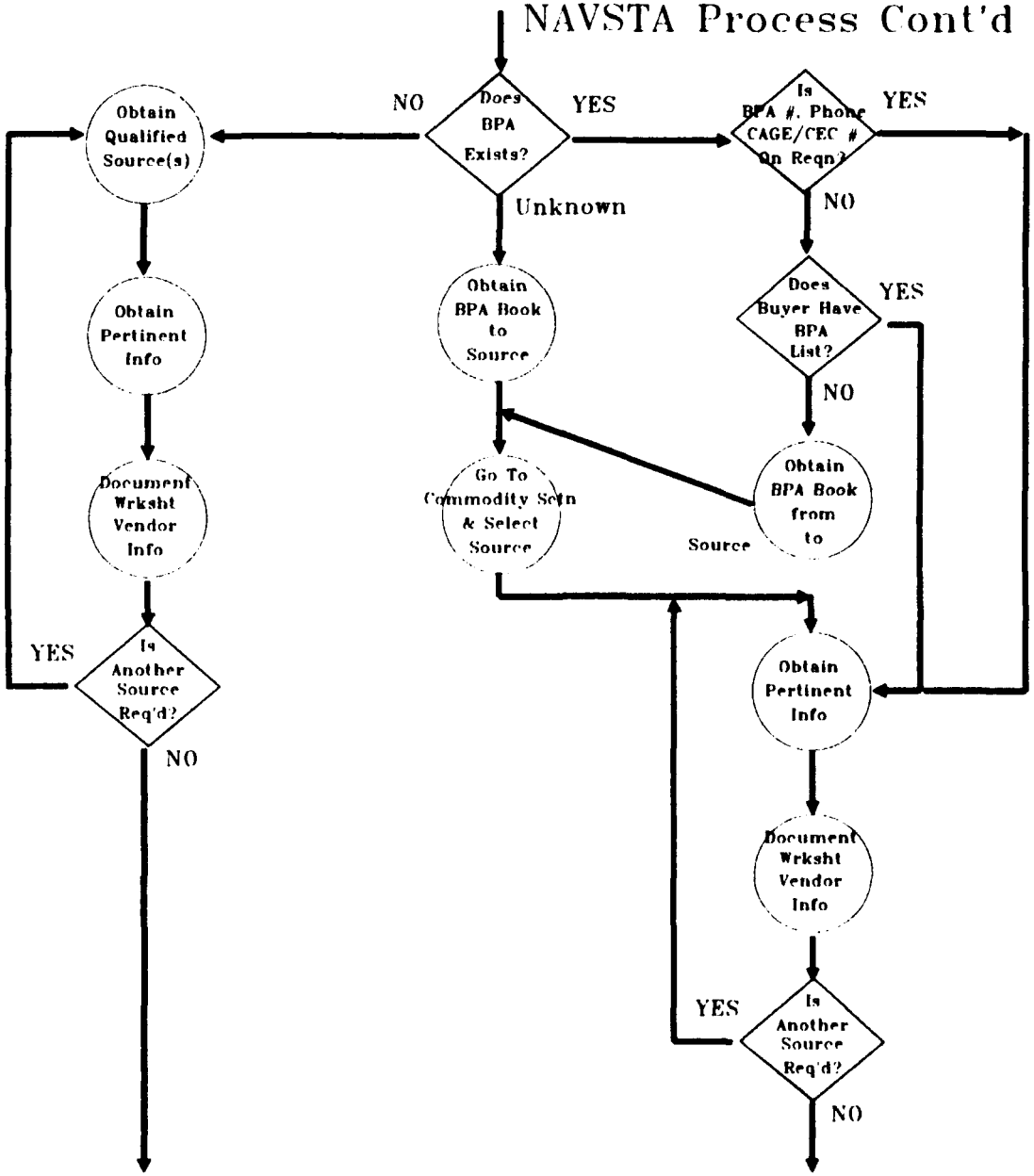
NAVSTA Process Cont'd #3



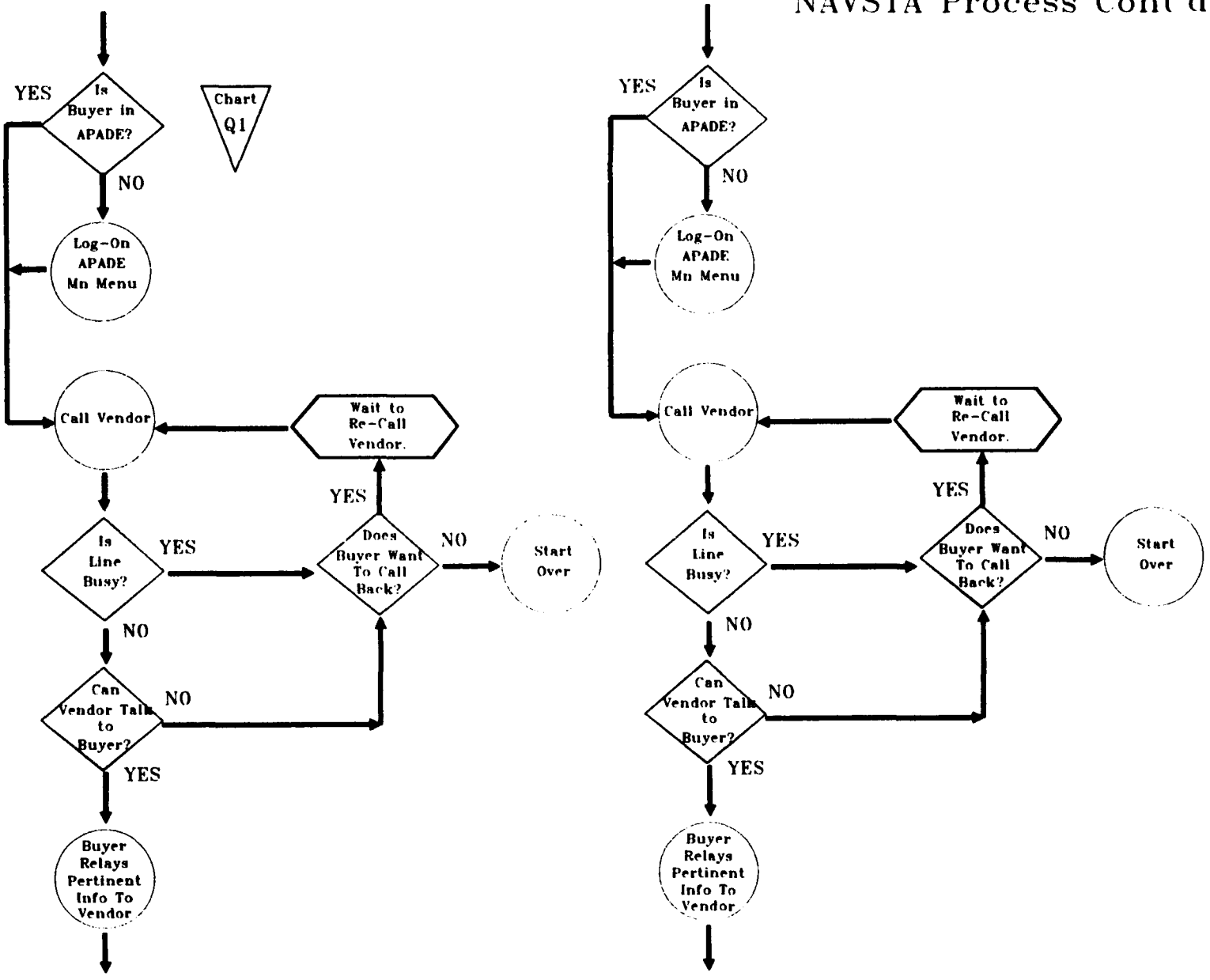
NAVSTA Process Cont'd #4



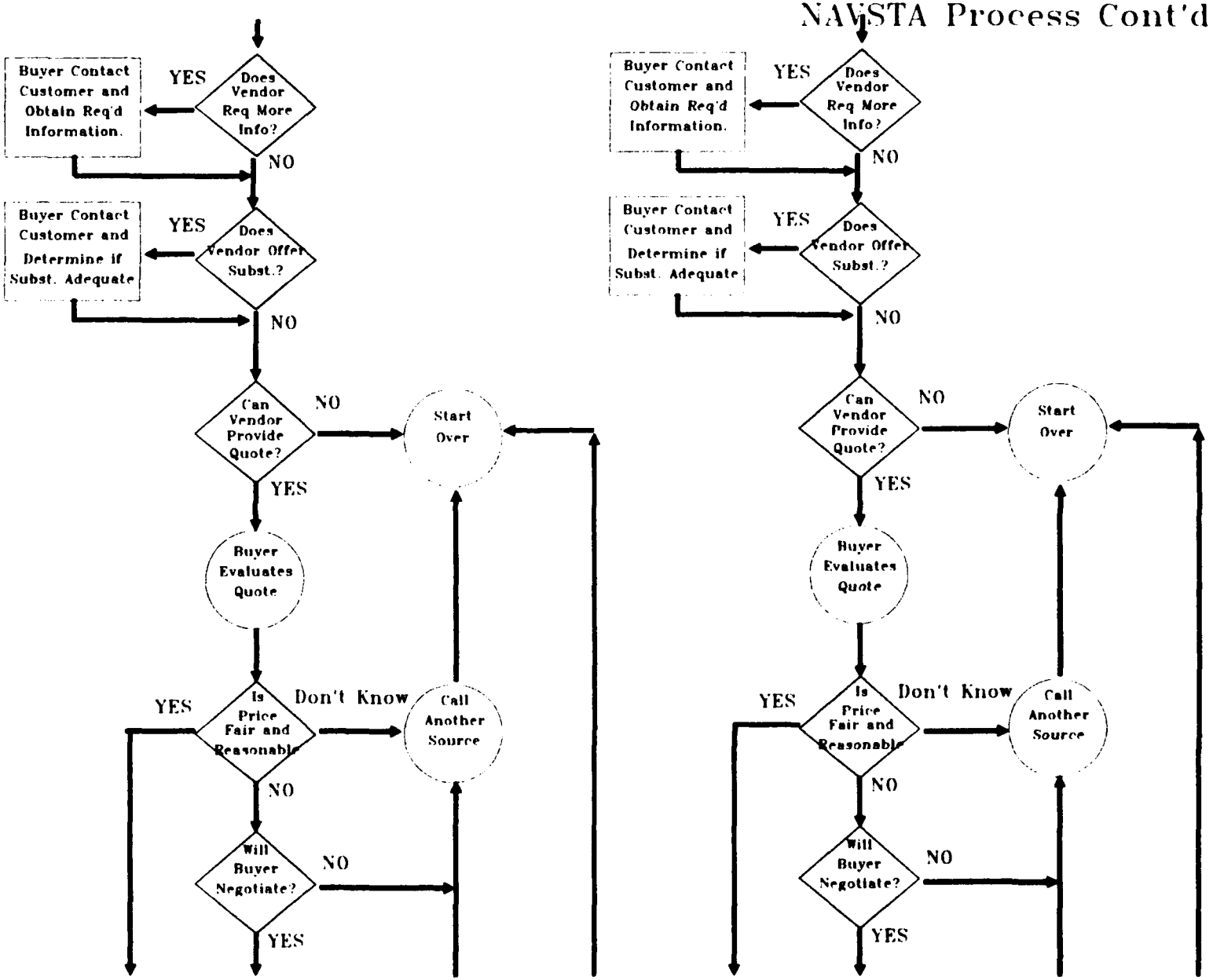
NAVSTA Process Cont'd #5

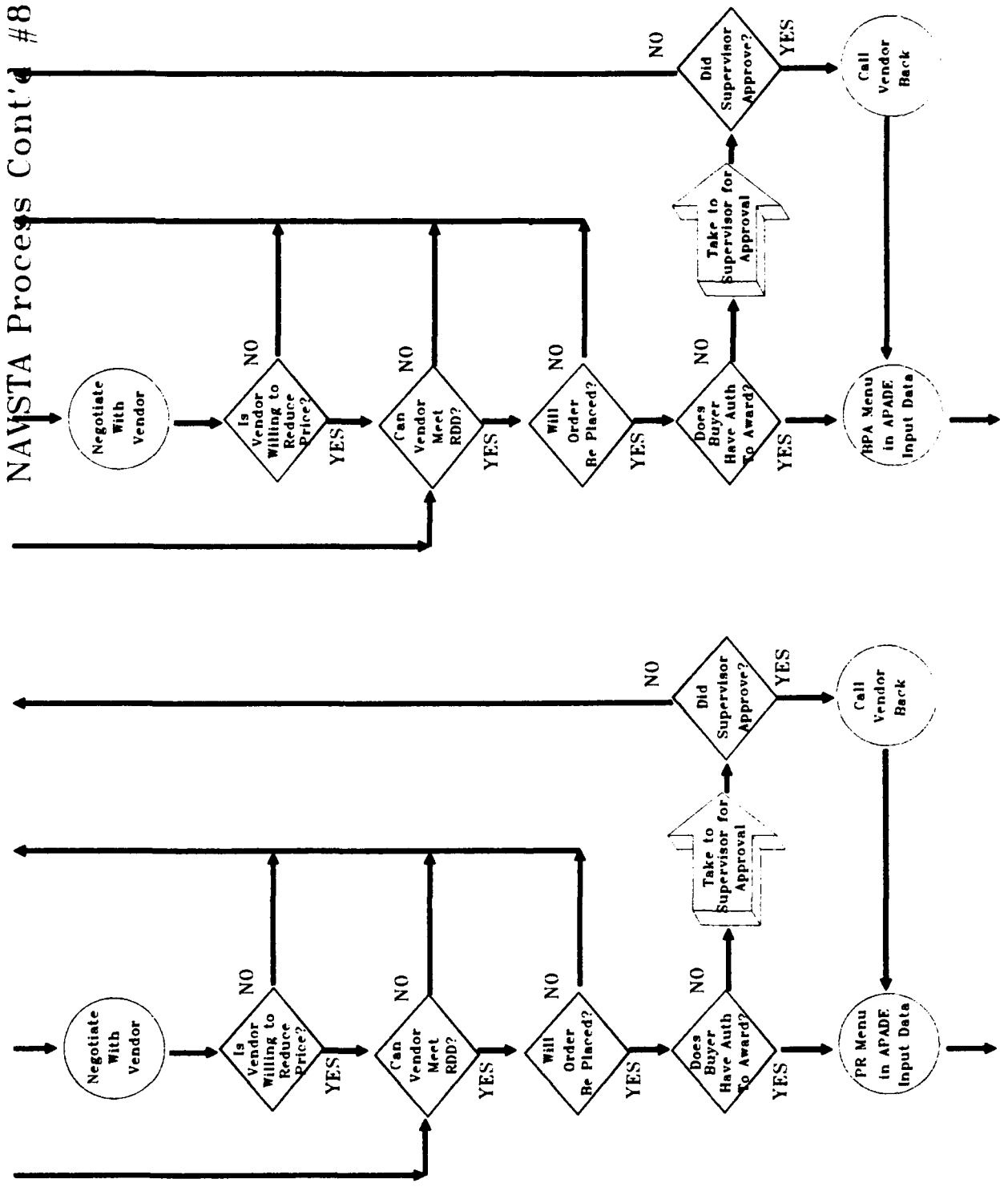


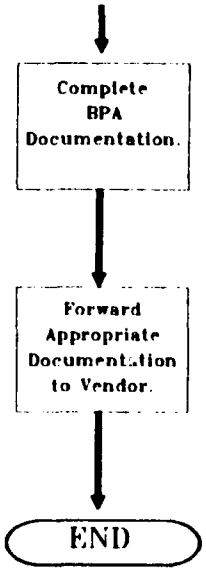
NAVSTA Process Cont'd #6



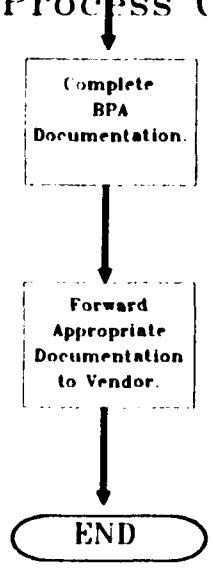
NAVSTA Process Cont'd #7




NAVSTA Process Cont'd #8
Negotiate With Vendor
Is Vendor Willing to Reduce Price?
NO
YES
Can Vendor Meet RDD?
NO
YES
Will Order Be Placed?
NO
YES
Does Buyer Have Auth To Award?
NO
YES
Take to Supervisor for Approval
Did Supervisor Approve?
NO
YES
Call Vendor Back
BPA Menu in APADE Input Data
PR Menu in APADE Input Data



NAVSTA Process Cont'd #9



D. Naval Station FISC Site Customer Base

NAVSTA FISC site provides small purchasing capabilities to Naval Station, San Diego, tenant shore commands and fleet units. Table (3) is an abbreviated excerpt of the NAVSTA Purchase Workload Report for the month of July '93 which provides statistical data on customer requirements.

Table (3) NAVSTA FISC SITE CUSTOMER BASE STATISTICAL DATA

Customer:	July Compl'd	July Percent	YTD Compl'd	YTD Percent
NAVSTA/Tenant Commands	1031	24.4%	9747	24.584%
Renewal/Shore	1	0.00%	40	00.001%
Habitability	935	22.1%	8415	21.224%
Pierside/Fleet	2263	53.5%	21446	54.191%
Totals:	4230	100%	39648	100%

Source: FISC, San Diego Purchase Workload Report (July '93)

Determining the customers for the categories provided above is relatively obvious with the exception of "habitability". Interviews revealed that requisitions in this category were for fleet units. With this insight the vast majority, in excess of 75%, of the work performed by NAVSTA FISC site is in the interest of fleet units with the balance for shore commands.

E. Associated Costs

Taking into account the current organization of NAVSTA FISC site, the associated direct labor costs are detailed in table (4).

Table (4) NAVSTA FISC SITE DIRECT LABOR

Title	Grade	Qty	Salary	Cost
Director	LT(jg)	1	$41,976	$41,976
Supervisor	GS-10	1	$34,683	$34,683
Supervisor	GS-9	4	$31,493	$125,972
Lead Purchasing Agent	GS-8	4	$28,515	$114,060
Technician	GS-9	4	$31,493	$125,972
Purchasing Agent	GS-7	6	$25,745	$154,470
Purchasing Agent	GS-6	8	$23,167	$185,336
Purchasing Agent	GS-5	2	$20,784	$41,568
Purchasing Agent	GS-4/5/6	7	$20,842	$145,894
Clerk	GS-4	9	18,577	$167,193
Totals:		46		$1,137,124

Source: Developed by Researcher.[1],[2]

In addition to the direct labor costs a pro-rated indirect cost is levied for all support provided by code P. The indirect labor costs are determined by the actual units

---

[1] **Note 1:** Salary rates reflect mid pay grade levels.

[2] **Note 2:** Figures depicted above include labor for mods (Reported by FISC as a portion of indirect) for billets not authorized for NAVSTA but who reside and perform at that location. FISC indirect labor cost adjusted accordingly. Additionally, FISC does not recognize military labor cost in their reports.

procured per year. FISC site individual procurement units are divided by the total unit procurements of all FISC sites combined and this percentage is multiplied by the total support costs thus determining the individual sites pro-rated share of the indirect labor cost.[29]

Total Annual Units Procured (All FISC Sites): 131,541

Naval Station FISC Site Annual Units Procured: 52,015

Total Annual Indirect Costs: $282,648

Percentage Computed As Follows:
NAVSTA Units/Total Units = Percentage
52,015/131,541 = 39.5%

NAVSTA Pro-rated Share of Indirect Costs:
39% of Total Indirect Costs
0.395 x $339,177 = $133,975

Table (5) NAVSTA FISC SITE DATA SUMMARY

Direct Labor Cost	Indirect Labor Cost	Total Labor Cost	Units	PUR Rate
$1,137,124	$133,975	$1,271,099	52,015	$24.43

Source: FISC, San Diego, Code P (8/26/93)[3]

In addition to labor costs other factors should be realized. However, for decades the Government has failed to recognize costs associated with facilities, equipment, utilities and consumables required in the performance of

[3]**NOTE 3:** To ensure consistency in depicting the data provided FYTD procurement units were pro-rated to arrive at an estimated annual rate.

Government employee jobs. It was not until recently with the initiative of Defense Business Operating Fund (DBOF) that consideration was given to these once hidden costs. However, the Government did not maintain an adequate accounting system to accommodate this new requirement. To date Government agencies remain unable to establish a common accounting system which would accurately determine the "true" cost of doing business. FISC is no different and it is for this reason the researcher was unable to acquire pertinent cost figures which would undoubtedly have a significant impact on increasing the PUR rate.

The above statistics relate to the procurement process only and do not account for the cost associated with the continued administration of the contracts. Further, these figures represent only one FISC site of the five currently at FISC, San Diego.

F. Chapter Summary

This chapter outlines the organization of FISC, San Diego as well as the processes involved in the procurement of goods and services, at NAVSTA FISC Site. Additionally it reviews the development of two measurement criteria, namely PALT and PUR. The final sub-sections provide current statistical data pertaining to NAVSTA's customer base and associated cost factors to be considered.

V. ANALYSIS OF NAVSTA FISC SITE CURRENT SYSTEM

A. Introduction

In analyzing the current procurement system utilized by FISC, San Diego, in particular NAVSTA FISC Site, the question is whether "Reengineeering" can be applied to obtain increased efficiency and effectiveness? As the area of reengineering is relatively new there is a limited amount of information pertaining to this topic. Therefore the approach used in analyzing the current system at FISC, San Diego will be from the perspective and consistent with the guidelines and principles outlined by **Hammer and Champy.**

B. Analyzing the Objective of NAVSTA FISC Site

A basic concept of reengineering asserts that objectives must first be developed with fundamental questions pertaining to the organization as well as its external environment driving the analysis and ultimate determination. In analyzing NAVSTA FISC site the basic questions became:

Why do FISC sites exist?

Who are the customers and what are their needs?

Are there comparable alternative measures available to perform these functions?

It's readily apparent that FISC site procurement departments exist to fill a need to provide small purchase services to shore and fleet units ensuring the timely delivery of goods and services thus allowing customers to meet their mission(s). However, are these services required?

Alternatives are available and in place on fleet units, however underutilized. Each ship has two qualified personnel, namely the Commanding Officer and the Supply Officer, who have the authority to enter into legally binding contracts for small purchases. The Supply Officer on most fleet units commonly procures provisioning and retail items; referring small purchase requisitions for spares and unique items not available in the supply system to the pierside procuring activity. Reasons for referring such items include convenience, thus allowing limited personnel resources to perform other supply related tasks, and reduced oversight with regards to Supply Management Inspections. Inspectors will only review those purchases which were contracted under the signature of the unit's authorized agent. By forwarding requisitions to pierside purchasing for award, the fleet unit avoids the scrutiny of an inspection team within this area.

Further, with in excess of 75% of NAVSTA's workload being conducted for fleet units, significant efficiencies to scale can be obtained by applying reengineering techniques. Clearly the current organization provides redundant effort which fleet

units have the capability and authority to perform with performance measurements which meet or surpass those of NAVSTA FISC site.

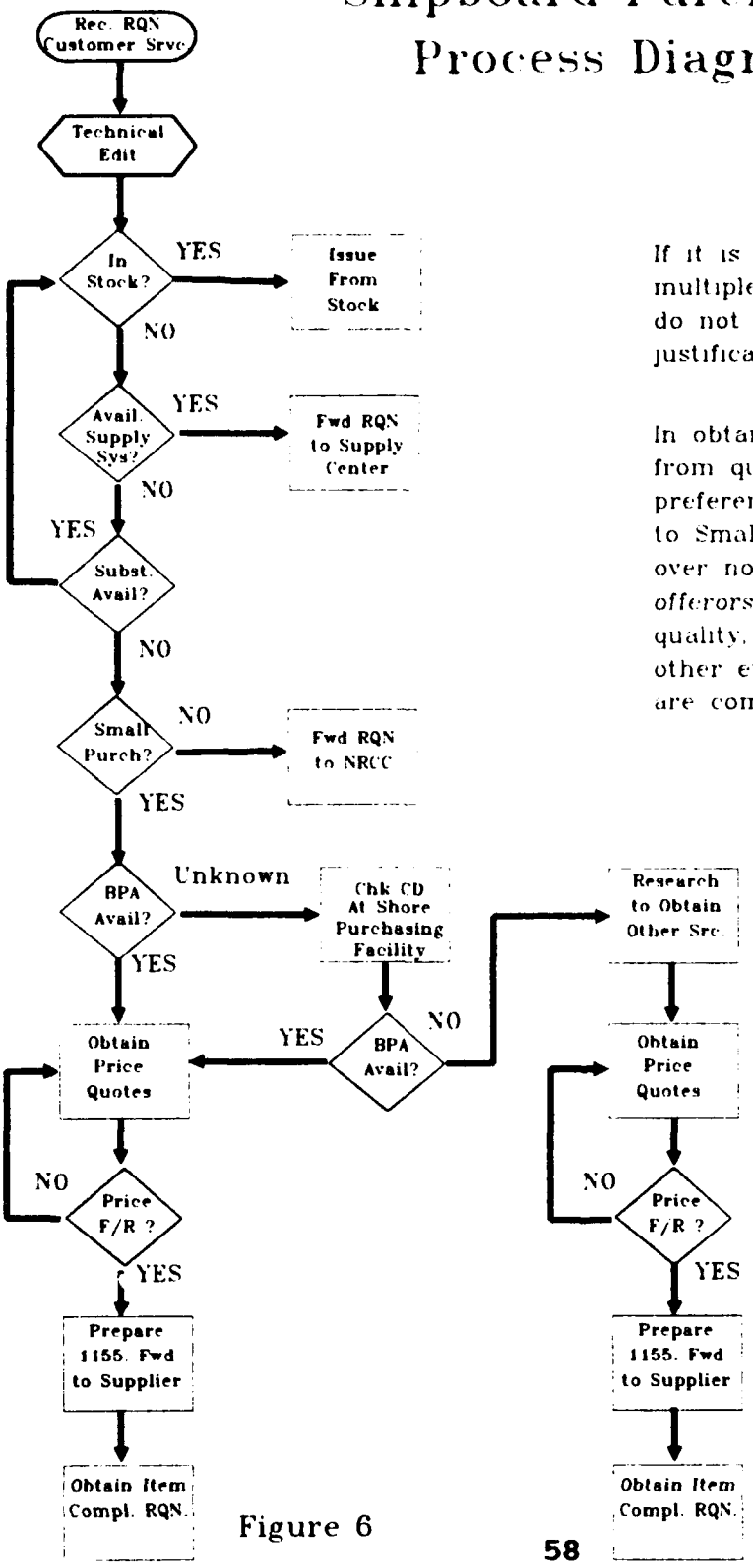
The rationale for providing purchasing support services for shore activities seems to be sound. Most activities do not have qualified personnel with the expertise and proper training to appropriately perform the functions required to remain in compliance with the multitude of regulations imposed by various Federal agencies.

C. Purchasing Process Analysis

As stated earlier reengineering dictates that processes must remain simple in order to meet the contemporary demands of quality, service, flexibility, and low cost. Figure (6) depicts the typical shipboard purchasing process. This approach accomplishes the same results and complies with all regulatory requirements as the FISC site, however, it requires fewer personnel resources and results in reduced PALT and PUR. In addition to the gained efficiencies cited, the unique characteristics of fleet units allow for increased flexibility. GSA Federal Supply Schedules are tailored to meet routine requirements. In accordance with FAR 8.404-1(a) "urgent requirements" present the situation of exception for mandatory use.[30]

> The inherent constraints of shipboard supply and logistics render virtually all ships' purchases urgent within the context of FAR 8.404-1(a).[31]

Shipboard Purchasing Process Diagram



If it is determined that multiple qualified sources do not exist a sole source justification is required.

In obtaining price quotes from qualified bidders preference should be given to Small Business concerns over non Small Business *offerors providing* price, quality, delivery, and other evaluation criteria are comparable.

Figure 6

Source: Developed by Researcher

Determination has been made that it is not cost effective for fleet units to be required to utilize GSA as a source of supplies. However, in the event fleet units can obtain the necessary items which meet their needs GSA remains a viable alternative source.

> Therefore, GSA Schedules are considered optional with respect to shipboard purchasing. Likewise, the procedures inherent in placing orders with Federal Prison Industries, Inc. and with the National Industries for the Blind and Other Severely Handicapped, do not lend themselves to effective use by afloat units and therefore are not considered viable sources of supply for use by shipboard purchasing personnel.[32]

Notwithstanding the above, shore purchasing activities purchasing on behalf of fleet units are required to utilize these socio-economic sources to the maximum extent possible.

Table (6) provides comparative data analysis of fleet units and FISC site estimated PALT and PUR.

Table (6) FLEET UNIT COMPARATIVE DATA SUMMARY

Fleet Unit	FISC AVG PALT	FISC AVG PUR	FLT UNIT AVG PALT	FLT UNIT AVE PUR
SURFGRU4 Units:	6 Days	$24.43	3 Days	$24.61

Source: Interviews w/ SURFGRU4 Fleet Units (10/93)

Comparing the data provided above there seems to be no distinct advantage for fleet units to utilize the services of NAVSTA FISC site other than convenience.

In analyzing NAVSTA FISC site it became readily apparent that the process/procedures currently in use are complex requiring specialized expertise in the functional areas of purchasing. Additionally, each functional area seemingly operated and evaluated its performance independent of each other with limited correlation or coordination with regards to the purchasing system as a whole. This system, as viewed by the researcher, is plagued with redundancy and additional oversight which do not add value to the end result of procuring goods and services but foster inefficiency and merely increase significantly the PALT.

Referring to the NAVSTA process, the potential exists for customer input to be continually required through the process adding to the already persistent delays of the system (Refer to Figure 7). The problem stems from the inadequacy of information provided initially by the customer, although a check-off list has been implemented to assist customers in submitting appropriate data. Compounding the situation is the inadequacy of the review of requests by technical personnel who allow requisitions to enter the system when additional information will undoubtedly be required at subsequent steps in the process. Small purchase buyers have the important responsibility of translating the customers' requirements into a purchase action. To do this successfully, the buyer must have an understanding of the various elements

of the purchase, as well as the ability to evaluate the adequacy of the requirement's description. This is made more difficult if customers fail to provide correct and/or sufficiently detailed purchase requests.[33] Failure to obtain sufficient data initially or allowing such documents to enter the system prompts buyers to take on additional responsibility of contacting the customer directly to discuss the requisition or to solicit additional information. Failure to recognize deficiencies initially will cause undue delays within the system or result in erroneous material/service to be purchased.

Included in the current process is the requirement for supervisor guidance/direction at various stages of the purchasing cycle. Do the decisions made or guidance provided by these supervisors "add value" to the overall process? Do these supervisors possess skills and expertise not commonly found or attainable by purchasing agents? If properly trained the purchasing agents would be provided the appropriate tools for accomplishing tasks within specified criteria thus eliminating the need for additional "overhead" in the form of supervisors. Purchasing agents who have the responsibility should be granted the authority to procure goods and services without unnecessary interference of supervisors. Supervisory functions in this scenario merely increase costs as well as delays.

Organizations that undertake reengineering, not only compress processes horizontally by having case workers or case teams perform multiple, sequential tasks but vertically as well. Vertical compression means that at the points in a process where workers used to have to go up the managerial hierarchy for an answer, they now make their own decisions. Decision-making becomes part of the work.[34] The benefits of compressing work vertically as well as horizontally include fewer delays, lower overhead costs, better consumer response, and increased empowerment for workers.

D. Organizational Analysis

The final stage in reengineering is to establish an organization which is tailored to both the objective as well as the processes. The requirement for a simple process development has enormous consequences for not only how the processes are designed but how the organization is shaped. It is the opinion of the researcher that Government agencies often re-organize in reverse order of the techniques and principles applied in reengineering. The pre-existing structure, more specifically the personnel resources, drive the development of the processes and procedures to be utilized in the hopes that the end result will conform to the stated objectives.

In applying reengineering and re-evaluating the objectives as well as the processes/procedures of NAVSTA FISC

Site Procurement Department, figure (7) was developed. Utilizing fleet procurement resources and eliminating unnecessary "overhead" of supervisors significantly reduces NAVSTA's resource requirements.

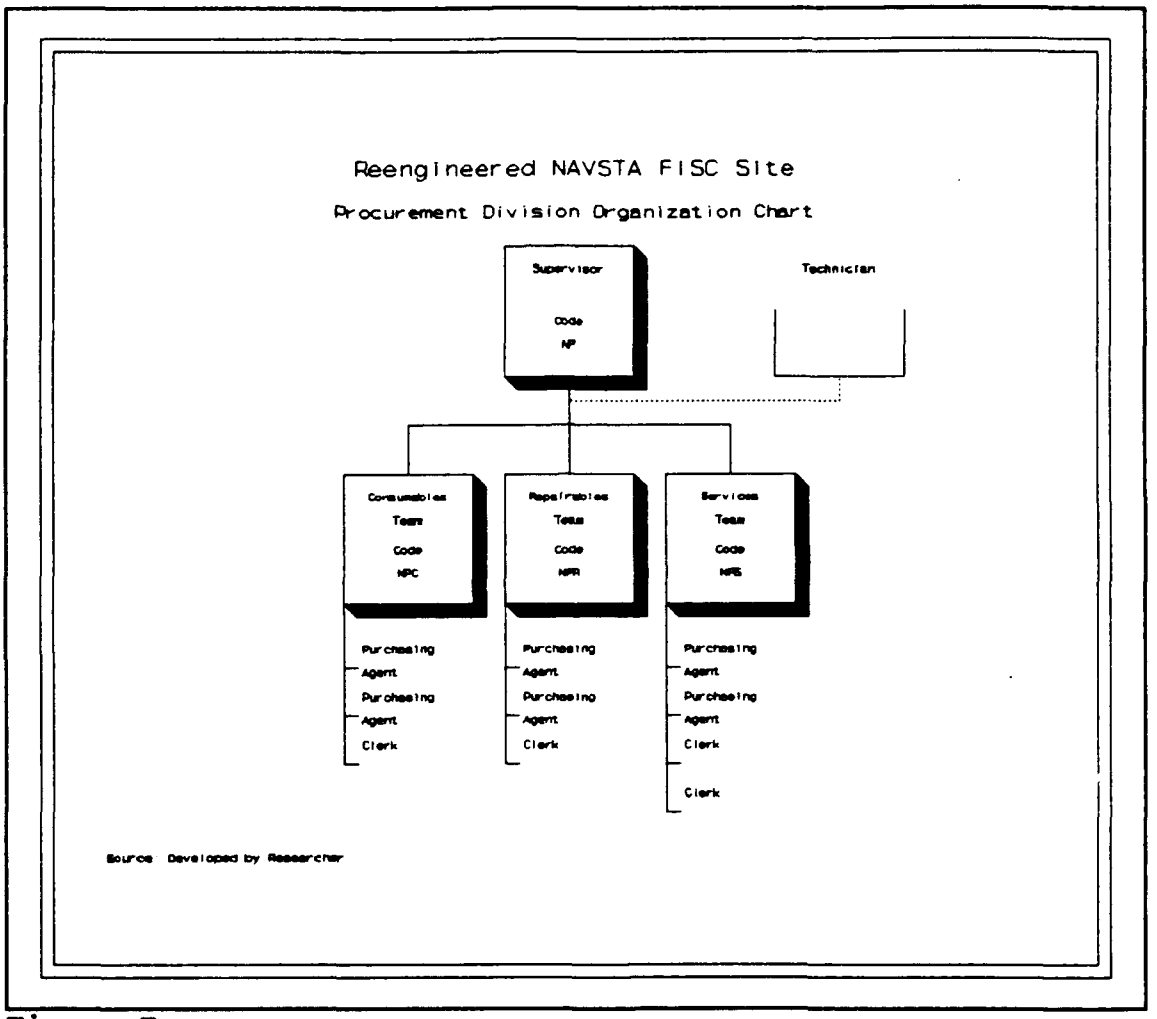


Figure 7

In addition to the inefficiencies caused by NAVSTA procuring on behalf of fleet units, eluded to previously in this chapter, divisions are established to perform functional tasks with regards to small purchasing. Similar items are

being procured by all divisions within this organization. The only distinction in the purchases is urgency, performed by the Expediting Division; initiation of shore requirement, performed by the Shore Purchasing Division; and initiation of fleet requirement, performed by Fleet Purchasing Division. Failure to recognize the benefits of commodity purchasing results in increased inefficiency. Commodity buyers become technical experts and are better able to apply their knowledge of the market in obtaining Economic Order Quantity buys. The resultant is the potential for reduced item costs, reduced delays in obtaining the goods or services and ultimately reduced administrative purchasing cost.

> In most firms today this is highly desirable. As materials continue to become more complex, specialized knowledge of their characteristics and markets is indeed required to purchase them intelligently.[35]

With regards to figure (2), Code P organization, site visits revealed that although the office was quite effective at performing its functional responsibilities it lacked the depth in personnel to provide continuous training.

Training is conducted by the deputy director and the procurement analyst who continue to perform their regularly assigned duties which cause trade-offs which may directly affect the quality of training and/or other associated

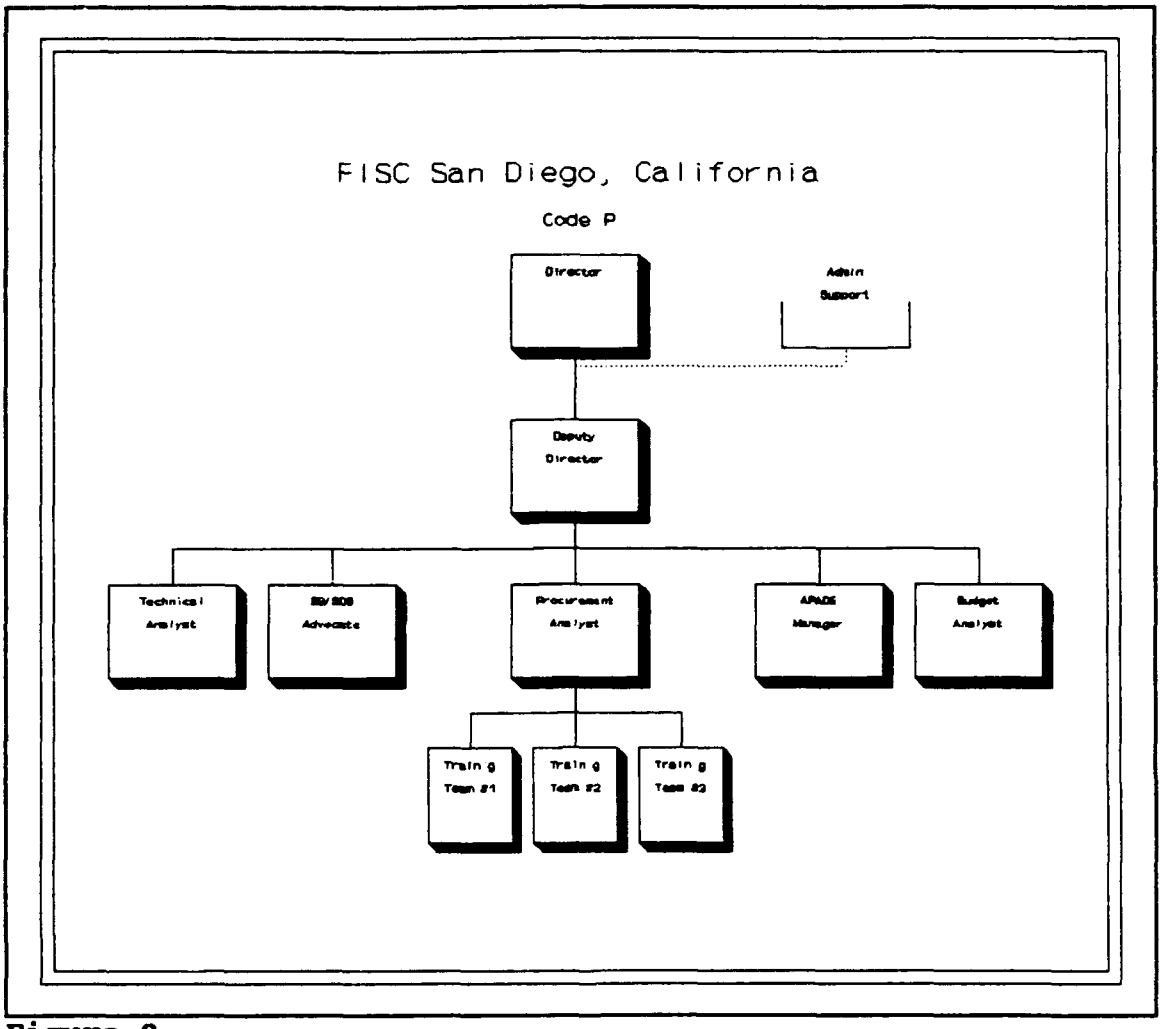


Figure 8

procurement functions within the office. Training is paramount in relaying current information as it relates to the ever changing environment of Federal procurement. Increasing authorized billets within Code P, specified for training, would ensure proper dissemination of policy, regulations and procedures to the various levels of FISC sites, as well as appropriate fleet units, and provide the required tools allowing all concerned to effectively and efficiently perform their jobs. These billets would also allow the entire office

to allocate more time to their regular duties without the need for trade-offs which would significantly improve the overall quality of each functional area (Refer to Figure 8).

E. Cost Analysis

By applying reengineering techniques to NAVSTA FISC site procurement department and obtaining the organization cited earlier in figure (7) direct labor costs will be reduced as revealed in table (7) below. Utilizing fleet unit assets as an alternative for current purchasing methods will result in significant reductions of personnel. However, as stated previously, Code P should have their staff complemented by three persons specifically designated for training. As a result indirect costs will reflect the addition of any billets Provided for this purpose.

Table (7) REENGINEERED NAVSTA FISC SITE DIRECT LABOR

Title	Grade	Qty	Salary	Cost
Director	GS-9	1	$31,493	$31,493
Purchasing Agent	GS-8	1	$28,515	$28,515
Technician	GS-9	1	$31,493	$31,493
Purchasing Agent	GS-7	2	$25,745	$51,490
Purchasing Agent	GS-6	2	$23,167	$46,334
Purchasing Agent	GS-5	1	$20,784	$20,784
Clerk	GS-4	4	$18,577	$74,308
Totals:		12		$284,417

Source: Developed by Researcher.

Table (8) represents cost comparisons of the current system employed by NAVSTA FISC site procurement department and the projected cost subsequent to applying reengineering techniques. Although total indirect cost will increase due to the increased proposed billets of Code P the significant workload reduction results in a pro-rated indirect charge of 11% for NAVSTA vice the pre-computed figure of 39.5%. Further, reengineering results an estimated annual labor savings of $930,307. Projections listed reveal that through reengineering labor costs will equate to 27% of the system currently in use. As stated in previous chapters additional savings can be achieved when factors of facilities, equipment and base operational overhead are considered.

Table (8) NAVSTA FISC SITE ANNUAL TOTAL COST ANALYSIS

Current Dir. Cost	Current Ind. Cost	Current Total Cost	Revised Dir. Cost	Revised Ind. Cost	Revised Total Cost
$1,137,124	$133,975	$1,271,099	$284,417	$56,375	$340,792

Source: Developed by Researcher

F. Chapter Summary

This chapter identified various inefficiencies attributed to the objective, process/procedures and organization of NAVSTA FISC site. In reviewing the basic principles of reengineering and applying them to the case site it is readily apparent that significant efficiencies can be obtained if this "new" reform initiative is applied.

VI. Recommendations/Conclusion

A. Recommendations

It is recommended that FISC, San Diego, and in particular, NAVSTA FISC site procurement department, utilize the techniques of reengineering to obtain substantial improvements with regards to increased efficiency. Doing so will result in consequentially changing the appearance of the organization as it currently exists.

In re-evaluating the true objective of NAVSTA FISC site it is recommended that fleet assets be utilized in the procurement of small purchase requirements. This will require TYCOMS to re-think the directive that fleet units utilized "pierside" purchasing whenever available. It will also eliminate the need for an inflated NAVSTA FISC site personnel organization to perform tasks which can be comparably performed by alternative measures. It seems absurd to underutilize fleet purchasing resources and disregard a viable system which already exists and can meet or surpass the current standards at a significant cost savings.

In reviewing the current process it is further recommended that measures be implemented to eliminate the continuous need for customer input. The current customer check-off list attempts to resolve this situation but falls short of its intended use. The check-off list requires more

detailed thought and should be modified to reflect realistic informational needs of procuring personnel. Besides providing customers with an appropriate check-off list, there is a definite need to orient the customer, through purchasing training, on the various factors which affect the small purchasing process. Additionally, the process needs to be further streamlined eliminating unnecessary steps which only hamper actual progress and add virtually no value to the end product. One area where streamlining would be particularly effective is the continual requirement for supervisory input.

Finally, with in excess of 75% of the current workload being appropriately performed by fleet units, the organization should be adjusted to reflect this change. Additionally, divisions within the "new" organization should consider commodity purchasing with the "teaming" approach as opposed to customer oriented "individual" approach purchasing. The benefits as eluded to previously are improved market/product knowledge and reduction of the time expended throughout the process.

Although radical personnel reductions will result from the implementation of this reengineered plan it is recommended that the surplus of supervisors be transferred to code P to supplement this undermanned entity. Training is paramount and utilizing personnel who have front line experience with regards to small purchasing will drive this endeavor and lead to its ultimate success. Training should be conducted

throughout the organization and include fleet units so the appropriate tools can be given to the people who have the responsibility and authority so they can perform their tasks in an effective/efficient manner.

B. Conclusion

Reengineering is not the cure-all for organizations but offers constructive methods in obtaining significant improvements when businesses are forced to make "radical" changes to ensure future solvency in a dynamic business environment of reduced resources and consumer outcry to do more with less.

In applying reengineering to the NAVSTA FISC site various inefficiencies were noted. Further, it became readily apparent that this radical reform initiative can and does result in significant improvements.

It should be further noted that reengineering is translatable to other functional areas and is virtually limitless as to its applications.

Although the 1993 Base Realignment and Closure Commission (BRAC) results have concluded, the need to pursue operational improvements, including reducing cost and maximizing operational efficiency and effectiveness, will continue to be at the forefront of all DOD agencies and installations. The

BRAC process demonstrated and highlighted the need for the existence of an organizational process and methodology aimed at the development of effective strategic business plans.

Reengineering has the potential of being the catalyst on which organizations can favorably position themselves not only in the near term, anticipating the 1995 BRAC, but also into the future in light of continued significant DOD budget reductions.

C. Research Question

"What processes and procedures are involved in the current acquisition system of FISC and to what extent can applications of Systems Reengineering be applied in an effort to maximize effectiveness?"

This thesis outlined the current organization, processes and procedures currently being utilized at NAVSTA FISC site, San Diego. Additionally, it provided an overview of the principles and techniques of Reengineering which, when applied to the case site proved that significant efficiency improvements could be achieved thus increasing the organizations overall effectiveness.

D. Areas for Further Research

Reengineering can be applied to a myriad of projects and applications are limited only to the imagination of the researcher. An area for further research directly affecting

this thesis would be the determination of an implementation process of the findings for not only the case site utilized but the entire FISC command.

LIST OF REFERENCES

1. Gates, William, Department of Defense Policy Reform: An Evolutionary Perspective, Naval Postgraduate School, Monterey, CA, (January 1989), p. 6.

2. Ibid., p. 14.

3. Ibid., P. 6.

4. Interview w/ CDR J. Warmington, Associate Professor, Naval Postgraduate School, Monterey, CA on August 10, 1993.

5. Sherman, Stanley N., Government Procurement Management, (Germantown, MD: Wordcrafters Publications, 1991), p. 104.

6. Ibid., p. 359.

7. Department of Defense: Office of the Inspector General, Acquisition Alerts for Program Managers, IG DoD 4245.1H, September 1987, p. 1-27.

8. Op. Cit., Sherman, p. 333.

9. U.S. Congress House Report No. 97-461 to Accompany HR 4709, 97th Congress, 2nd Session, Government Printing Office, Washington, D.C., March 19, 1982.

10. Hearings before the Subcommittee on Federal Expenditures, Research, and Rules of the Committee on Governmental Affairs, United States Senate, 97th Congress, 1st Session, May 13, 1981.

11. Op. Cit., Sherman, p. 332.

12. Jones, L. R. and G. C. Bixler, Research in Public Policy Analysis and Management, (Greenwich, CT: JAI Press, Inc., 1992).

13 Ibid., p. 2.

14. Champy, J. and M. Hammer, Reengineering the Corporation, (New York, NY: Harper Business Publishing, 1993), p. 2.

15. Ibid., p. 4.

16. Ibid., p. 33.

17. Ibid., p. 129.

18. Ibid., p. 130.

19. Ibid., p. 55.

20.Op. Cit., Champy & Hammer, p. 200 - 213.

21.Interview w/ FISC, Code P Deputy Director, Joyce Cozart, Aug 26, 1993.

22.Dobler, Donald W., David N. Burt and Lamar Lee, Jr., Purchasing and Materials Management, (McGraw-Hill, Inc, 1990), p.93.

23. Ibid., p. 93.

24.FISC, San Diego, CA, Procurement Memorandum No. P-001, Procurement Policies and Procedures, (March 18, 1993), Encl (2).

25.Interview w/ FISC, Code P Deputy Director, Joyce Cozart, Aug 26, 1993.

26. Op. Cit., Dobler, Burt and Lee, p. 104.

27.FISC, San Diego Procurement Memorandum P-001 (Encl 2) dtd March 18, 1993.

28.FISC, San Diego Small Purchase Report dtd July 31, 1993.

29.Interview w/ FISC Code P, Budget Analyst Linda Ward, Aug 26, 1993.

30.NAVSUPINST 4200.85A, Shore and Fleet Small Purchase and Other Simplified Purchase Procedures, September 17, 1991 (Change Incorporated September 28, 1992), p. 1-4.

31.Ibid., p. 1-4.

32.Ibid., p. 1-4.

33.Naval Postgraduate School, Small Purchasing Professional Development Training Guide for Mid-Career Personnel, p. A-1.

34.Champy/Hammer p. 53.

35.Op. Cit., Dobler, Burton, Lee, p. 99.

INITIAL DISTRIBUTION LIST

1.	Defense Technical Information Center Cameron Station Alexandria, Virginia 22304-6145	2
2.	Library, Code 52 Naval Postgraduate School Monterey, California 93943-5002	2
3.	Defense Logistics Studies Information Exchange U.S. Army Logistics Management Center Fort Lee, Virginia 23801	1
4.	Professor David Lamm, Code AS/LT Naval Postgraduate School 555 Dyer Road, Room 229 Monterey, California 93943-5103	2
5.	Fleet and Industrial Supply Center 937 North Harbor Drive San Diego, California 92132-5050 Attn: Code P	1
6.	Professor Nancy Roberts, Code AS/RS Naval Postgraduate School 555 Dyer Road, Room 302 Monterey, California 93943-5103	1
7.	LCDR(Sel) Wayne J. Bergeron 2 Holiday Drive Fairhaven, Massachusetts 02719	2